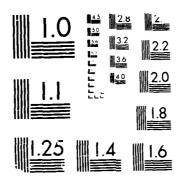
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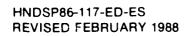


# **ECONPACK**

ECONOMIC ANALYSIS PACKAGE

**USERS MANUAL** 





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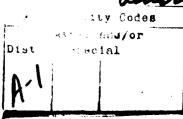
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## ECONPACK ECONOMIC ANALYSIS PACKAGE USERS MANUAL

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## CHAPTER 1 THE SEVEN STEP ECONOMIC ANALYSIS PROCESS



#### 1.0 Establishing and Stating Objective

The objective is the result to be achieved; that is, the objective states what the alternatives are to accomplish. The statement of the objective should clearly define and quantify (to the extent possible) the function to be accomplished. The statement of the objective should not presume a specific means of achievement (i.e., course of action to bring about the desired result). If such a presumption is made, the statement of the objective undermines the analytical purpose of the EA by prejudging the result. Compare, for example, the following statements of objectives:

- o to provide housing for 100 unaccompanied officers, and
- o to construct a 100-person Unaccompanied Officers Quarters.

The first statement is preferred because it is not in the form of a solution. A quantitative statement of the objective is beneficial because it provides an explicit test of the adequacy of possible alternatives.



Establishment of the objective is often a policy matter which lies beyond the scope of the individual responsible for an EA. The "analyst," however, needs to recognize the significance of this step in the EA process.

#### 1.1 Identifying Alternatives

After the objective is established and properly stated, the next step is to consider all <u>reasonable</u> ways of satisfying that objective. Since the EAs basic purpose is to help the decision-maker allocate resources efficiently, it is vital that careful attention be given to identification of all reasonable alternatives. The recommendation resulting from the EA will, after all, come from among options evaluated.

For a possible alternative to be considered <u>reasonable</u>, it should be consistent with Army regulations and legal requirements. <u>Adequacy</u> and <u>financial feasibility</u> are other key considerations in identification and definition of reasonable alternatives. Adequacy refers to the capacity of the potential alternative to meet the actual goal or objective. For a potential alternative to be financially feasible, it must be compatible with funding realities.



The following alternatives, at a minimum, should be considered:

STATUS QUO - Assume existing facilities will continue to be used. NEW CONSTRUCTION - A new, on-post facility.

MODIFICATION OF AN EXISTING FACILITY - Renovation and/or addition to an existing facility.

OTHER INSTALLATION - Use of other DoD installation for training or facilities.

LEASE - Long term lease of facility.

An alternative can be eliminated from further considerations if it does not meet the objective. The reasons for eliminating an alternative from further consideration should be provided in a narrative summary.

#### 1.2 Formulating Assumptions

EAs are future oriented in that they are focused on current decisions which have benefit and cost implications for future years. To the extent possible, EAs should be based on objective "facts." Since the future is not completely known with certainty, it is often necessary to make assumptions in order to proceed with an EA. All assumptions should be documented in the economic analysis.

Examples of assumptions include: the functional life of an asset, the level or extent of future requirements for a particular function, and the usefulness of a facility after the present objective is fulfilled. It is often possible to base these assumptions (or "estimates") on historically or technically factual information.

#### 1.3 Determining Costs and Benefits

This step is often the most difficult and time-consuming component of an EA. The analyst must decide what data are needed, how relevant data are to be collected and documented, and when the data in-hand are sufficiently reliable to be used in an EA.

The principal benefit to be derived from a military construction project is fulfillment of the stated objective. Since this is a benefit common to all viable alternatives, its inclusion in the EA calculations would not affect the ranking of alternatives. Consequently, dollar quantification of the major benefit is unnecessary. Emphasis is, therefore, placed on the costs of the alternatives. Dollar quantifiable benefits (other than meeting the stated objective) of each alternative are treated as cost offsets for that alternative.



Costs and benefits must be determined for the entire useful life of the project. Timing is important in investment decision making as estimates are needed for the year in which a cost is to be incurred or a benefit is to be received. If actual dollar amounts are known, it should be realized that assumptions may be necessary with respect to timing.

The costs and benefits associated with each alternative under consideration should be quantified whenever possible, so they may be included in the EA calculations. When quantification is not possible, the analyst should still attempt to document significant (nonquantifiable) costs and benefits so that these may be considered when comparing alternative courses of action.

The following costs are provided, as a guide, for the types of costs associated with construction alternatives:

**HVAC** 

Initial Construction/Renovation Cost Maintenance and Repair Costs Periodic Repair/Replacement: Painting, New Roof, Replacement Annual Utilities Costs Other Costs: Security, Administration, Moving Costs Salvage/Demolition Equipment (Purchase/Maintenance/Operating Costs) Furnishings Allowances Transportation/Per Diem Personnel Annual Rent Services (Custodial, Trash Removal, Snow Removal)

#### 1.4 Comparing Alternatives

The aim of an EA is normally to choose among alternative courses of action. The comparison of the costs and benefits is the central focus of the EA process. The purpose of this step in the EA process is to establish a <u>ranking</u> of alternatives based on the costs of and benefits derived from each proposed alternative.

In comparing alternatives, it is important to consider non-quantifiable benefits and costs as well as the quantifiable ones which enter into the calculations. This is especially true in situations in which the quantitative results of two or more alternatives are equal (or almost equal). That is, the smaller the quantitative variation among alternatives, the greater the importance of other considerations.

In ECONPACK, the basis of comparison, between alternatives, is Net Present Value.

#### 1.5 Performing Sensitivity Analysis

A sensitivity analysis is performed when there are large uncertainties about costs, timing or other impact data or when the results of the comparison step do not reveal a clearly superior alternative. A sensitivity analysis allows the analyst to engage in a "what if" process to determine how critical the particular assumptions used in the EA are to the EA results. In the sensitivity analysis, selected parameters or assumptions are allowed to vary to determine whether or not a change in costs is likely to lead to a change in ranking of alternatives.

Since the purpose of the sensitivity analysis is to test how sensitive the results are to variation in costs, it is especially important to vary expense items which are relatively large and uncertain. If small variations in expense items cause a change in alternative ranking, the analyst may be well-advised to reevaluate the estimates and refine them in order to reduce the degree of uncertainty.

By including the results of the sensitivity analysis in the final EA presentation, the analyst assures the decision-maker and reviewer that uncertainties have been considered.

#### 1.6 Reporting Results and Recommendations

The EA report should be comprehensive and should include documentation of data sources. It should serve as a "stand-alone" document for the decision-maker to use in deciding on the appropriate use of resources.

The structure of the report should begin with a summary of the analysis, including recommendations based on the content of the EA. The actual decision is based on non-economic as well as economic considerations. The EA recommendations are an important input into the final decision-making process.

Following the summary and recommendations, the EA report should provide a step-by-step explanation of the basis for the recommendations. This explanation should ideally follow the structure of the EA process itself. That is, it should include: statement of objective (requirement to be met); definition of alternatives; explanation of assumptions; cost and benefit data and sources; comparative ranking of alternatives based on costs and benefits; and sensitivity analysis results.





The Department of Army has two regulations governing the use of economic analysis. AR 11-28, Economic Analysis and Program-Evaluation for Resource Management, provides guidelines for conducting an economic analysis for Army projects. AR 415-15, Military Construction, Army (MCA) Program Development, applies these general rules to military construction projects. OMB Circular A-94, Discount Rates to be Used in Evaluating Time-Distributed Costs and Benefits, lists discount rates. OMB Circular A-104, Evaluating Leases of Capital Assets, applies to the case where private sector financed facilities are compared to military construction projects. To obtain a copy of regulation AR 11-28, contact HQDA (DACA-CAF), Washington, DC, 20310. To obtain a copy of AR 415-15, OMB Circular A-94 and A-104, contact: HQDA (CEEC-PESO), Washington, DC, 20314.

Applicability: All proposed construction projects submitted to headquarters for approval must be accompanied by an economic analysis or a statement justifying why an economic analysis was not performed.

In general, OMB and DOD policy requires that EAs be performed in constant dollars using a 10% discount rate. If one of the alternatives is a leased facility then Circular A-104 guidance applies. In this case, a current dollar analysis (with inflation) is required using a discount rate equal to market discount rates of Government bonds with the same term as the length of the analysis period. ECONPACK has been designed to satisfy all of the requirements of the documents listed above.

#### 1.8 TYPES OF ECONOMIC ANALYSIS

Army guidance categorizes EAs into two separate types: <u>primary</u> economic analysis and <u>secondary</u> economic analysis. The structure of the economic analysis process is similar whether the EA being produced is primary or secondary. However, budgetary effects, report formats, and certain computations differ somewhat depending on analysis type.



#### 1.3.1 Primary Economic Analysis

A primary EA is designed to determine whether an existing situation or procedure should be changed in some way to take advantage of dollar savings available through some other situation or procedure. Direct comparison is made between new alternatives (new ways of meeting an existing requirement) and the status quo alternative (the way the requirement is currently met). If two or more new alternatives are being considered, each is compared directly to the status quo alternative. The one with the lowest present value economically the best solution.

The focus is on the net savings resulting from the new approach to meeting the requirement in place of the status quo approach. For example, consider an installation which currently purchases certain maintenance services from a local company. Continuation of this practice would represent the status quo alternative. the same maintenance services could be obtained by employment of additional personnel at the installation, this would represent a A primary EA would not be concerned with new alternative. justification of the need for the maintenance services, but it would address the question of whether or not the services could be obtained at less cost if the new alternative (additional personnel) were instituted in place of the status quo alternative (purchase from a local company). If the new alternative turns out to be less costly and is adopted, the effect is to reduce budgetary outlays.



#### 1.8.2 Primary Economic Analysis Report

The Primary Economic Analysis Report format presents the net present value of the cost for the proposed change and the net present value of the savings estimated to result from the proposed change.

This report also includes the savings to investment ratio (SIR) and the discounted payback period (DPP) for each proposed alternative when compared to the status quo. Both of these measures are indicators of the attractiveness of implementing the proposed new alternative in place of the status quo alternative. The SIR is net savings divided by net investment (both in terms of present value). The DPP is the number of years from the time the project (alternative) is initiated to the time when the present value of savings is equal to the present value of investment costs. The <u>larger the SIR</u> (i.e., the greater savings are relative to the investment required to achieve them) and the <u>smaller the DPP</u> (i.e., the shorter the period required for savings to offset the investment costs which generate them), the more attractive is the alternative.

#### 1.8.3 Secondary Economic Analysis

A secondary economic analysis is used to determine which of two or more alternative courses of action would most economically fulfill an objective or requirement which is not currently being Since the objective is not already being satisfied in this case, there is no status quo alternative; all alternatives begin on an equal footing and each must be compared against each of the In the absence of a status quo alternative as a fixed standard of reference, the focus of this type of analysis is on net benefits (benefits minus costs) rather than on savings. benefits common case of equivalent for each alternatives under consideration (i.e., benefits orsufficient to meet the need specified in the objective), the problem is one of cost minimization. Present value of costs are calculated for each of the alternatives and then ranked; other things being equal, the least-cost alternative is preferred.

#### 1.8.4 Secondary Economic Analysis Report

The Secondary Economic Analysis Report format presents the net present value of the project costs for a given alternative. This format focuses upon calculation of costs separately for each alternative under consideration. The format is repeated for each of the alternatives. The Secondary Economic Analysis Report allows the analyst and the decision-maker to directly compare the costs (in present value terms) of all alternatives.

This report format also shows an equivalent uniform annual cost (EUAC) for each alternative. The EUAC is the amount of money which, if paid in equal annual installments over the life of a project, would pay for the project. That is, the discounted value of this hypothetical uniform cost stream is equal to the actual estimated present value of project costs. The alternative with the <a href="lowest EUAC">lowest EUAC</a> is the least-costly alternative. The EUAC is useful to the analyst and the decision-maker when the economic lives of alternatives differ.

Some project alternatives, in either a secondary analysis or a primary analysis, may have significant benefits which need to be noted. Both Secondary and Primary Economic Analysis Reports have "benefits" sections in which advantages of particular alternatives can be described. This allows for nonquantifiable and non-dollar quantifiable benefits, as well as dollar quantifiable benefits, to be communicated and documented.

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### CHAPTER 2 SELECTED CONCEPTS USED IN ECONOMIC ANALYSIS

#### 2.0 DISCOUNTING

Most military construction EAs are essentially cost-minimization problems, i.e., analyses of how a given objective can be met for the least cost. However, the dollar costs are not completely comparable because they occur at different points in time. The discounting process adjusts dollar amounts so that costs incurred at different points in time can be directly and meaningfully compared. This adjustment reflects the fact that the significance attached to a particular dollar amount to be paid (or received) at a later date is less than the significance attached to the same dollar amount to be paid (or received) now.

The discounting process can most easily be understood by first examining its opposite, the compounding process. Assume that a loan of \$1,000 is made at an annual interest rate of 10 percent. The \$1,000 used to make the loan is money held now; it represents a present value (PV). If the loan is repaid after one year, the repayment amount is \$1,100 of which \$1,000 is principal and \$100 is interest. This \$1,100 to be received one year from now represents a future value (FV). Letting the subscript indicate the number of years until repayment, and "i" represent the interest rate, this relationship can be expressed as:

$$FV_1 = PV(1+i).$$

Substituting our assumed values for PV and i yields:

$$FV_1 = \$1,000(1+0.1)$$
  
= \\$1,000(1.1)  
= \\$1,100.

If, instead of receiving repayment at the end of one year, the loan is renewed for a second year, its future value at the end of two years is \$1,210. The interest received for the second year of the loan is \$110, or \$10 more than the interest accrued during the first year. This represents interest accrued on both the \$1,000 principal amount and the \$100 interest accrued in the first year. The calculation is as follows:

$$FV_2 = FV_1(1+i)$$
  
= \$1,100(1+0.1)  
= \$1,210.

Since  $FV_1$  is PV(1+i), substitution reveals that:

$$FV_2 = PV(1+i)(1+i)$$

 $= $1,000(1+0.1)^2$ 

 $= $1,000(1.1)^{2}$ 

= \$1,000(1.21)

= \$1,210.

Extending and generalizing this pattern leads to the following expression as the formula for calculation of future value for n years.

$$FV_n = PV(1+i)^n$$
.

Discounting is the opposite of compounding. Compounding is the process of converting present values to future values, discounting, on the other hand, is the process of converting future values to present values. The present value of a given future amount to be received at a specific future date is equal to the present amount that would accumulate to that future amount by that date given a particular interest rate. For example, the present value of \$1,210 to be received two years from now is \$1,000 if the interest rate is 10 percent. The formula for calculation of present value (for the end-of-year convention) can easily be derived from the formula for future value calculation. Since

$$FV_n = PV(1+i)^n$$
,

it follows that

$$PV = (FV_n) (1/(1+i)^n)$$

The interest rate (i) in this formulation is known as the "discount rate". Current DOD policy requires a 10 percent discount rate for EAs. The ratio  $(1/(1+i)^n)$  is called the "discount factor."

#### 2.1 INFLATION AND DIFFERENTIAL INFLATION

The term "inflation" refers to a general rise in the price level in an economy. Using a 10% discount rate, if the expected inflation rate is judged to affect all costs of an EA equally, special treatment is not necessary. However, if certain types of costs are expected to experience a substantially different rate of inflation than the general economy, ECONPACK has the capability to handle this situation with the differential inflation feature. Specifically, the user can apply a





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differential inflation factor to any expense item in the EA. Since the concept is "differential" inflation, the user would use a percentage factor representing the difference between the expected rate of inflation for the particular expense item and the expected general rate of inflation.

#### 2.1.1 Constant Dollar Analysis

An EA is usually performed with all costs reflective of a particular baseline year. In this case, the EA is termed a "Constant Dollar Analysis". The 10% discount rate applies in the case of constant dollar analysis in accordance with policy (OMB A-94, AR 11-28, and AR 415-15).

#### 2.1.2 Current Dollar Analysis

Current Dollar Analysis in accordance with OMB A-104 requires that the full amount of inflation be applied to every cost. The discount rate for this type of analysis is based on the cost of U.S. Treasury Securities with a maturity comparable to the term of the lease. Inflation indices and discount rate information can be obtained from the OCE Economic Briefs in the ECONPACK module of the PAX System or by contacting HQDA(CEEC-PESO).

#### 2.2 ASSET VALUE OVER TIME

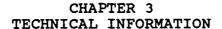
Most assets do not retain their full value over time because of physical deterioration and/or obsolescence. The estimated value of an asset at a future point in time may be entered in two ways: utilizing a residual schedule or stating a salvage value.

#### 2.2.1 Residual Schedule Method

The user may choose from among three "sub-options" if electing to employ the residual schedule concept instead of the salvage value concept: the straight-line depreciation schedule (SL), the amortization declining balance schedule (DB), or a user specified schedule (US). The last schedule would be prepared based on the user's judgement of asset value erosion for the particular type of asset. The residual value of an asset at the end of the project's life is often referred to as "terminal value".

#### 2.2.2 Salvage Value

A second way is by stating a user specified salvage value (also referred to as a "terminal value"). Normally, a salvage value is a nominal sum at which an asset is valued at the end of the project's life.





- 3.1 Introduction: The purpose of this chapter is to explain some of the features of ECONPACK, provide more detailed interpretations of selected EA concepts, and explain key procedures for using ECONPACK.
- 3.2 Input Files and Report Files: The ECONPACK permanent disk contains two kinds of files: input files and report files. Input files are fully or partially constructed data bases. When the data from an input file is used to generate economic analysis reports, a correlative report file is created. The filetypes for input files and report files are FT75F001 and FT76F001, respectively. These filetypes are assigned by the system.
- 3.3 ECONPACK User Modes: The user may prepare an ECONPACK input file in either of two ways: the input file may be entered by means of a terminal prompting mode or by means of a file input mode, utilizing text editor commands. [Text editor commands are explained in Chapter 4.]
- 3.3.1 Terminal Prompting Mode: Use of this mode requires little knowledge of the computer system and relatively limited expertise in economic analysis. It is, therefore, especially appropriate for the standard user. Since the structures employed in the two modes are similar, it is useful, when beginning to perform EAs using ECONPACK, to become familiar with the terminal prompting mode even if the user expects ultimately to use the file input mode.

The terminal prompting mode is interactive. Creating or modifying an input file is accomplished by responding to a series of prompts. This prompting sequence leads the user, step-by-step, until the input file is created or modified and the reports are ready for generation.

Chapter 6 discusses the terminal prompting mode.

3.3.2 File Input Mode: The file input mode is a less rigidly structured means of creating and modifying input files on ECONPACK. This less rigid structure has a significant advantage in that it allows greater user flexibility than is possible with the terminal prompting mode. On the other hand, the file input mode has the disadvantage of requiring substantially greater knowledge of the computer system and of the economic analysis process since the user is not explicitly directed through the input procedure.



Chapter 7 discusses the file input mode.

- 3.4 Types of Prompts: Throughout this manual, reference is made to various types of prompts. Specifically, users may encounter any or all of the prompts listed below:
  - PAX prompt (PAX>) -- enter an option from the PAX System Menu;
  - Time-of-Day prompt (hh:mm:ss>) -- enter a Time-of-Day command. Time-of-Day commands are discussed in Chapter
     Time-of-Day prompts appear when the user is within the DD Form 1391 Processor System;
  - 3. C prompt (C>) -- enter a CMS (Conversational Monitoring System) command. CMS commands are discussed in Chapter 4. CMS is available only to non-DD Form 1391 Processor System users, and appears as Option 8 on your MAIN ECONPACK MENU:
  - 4. Monitor Ready prompt (MONITOR READY>) -- enter a monitor ready command. Monitor ready commands are discussed in Chapter 4. Monitor ready commands are available when the user enters the DD 1391 Processor;
  - 5. E prompt (E>) -- enter a text editor command. Text editor commands are discussed in Chapter 4;
  - 6. I prompt (I>) -- enter input data;
  - 7. ?? prompt (??>) -- enter <u>KT <CR></u> to halt report generation or <u><CR></u> to continue execution of ECONPACK. This prompt appears when the user depresses the ESCAPE key at any prompt during the program;
  - 8. System prompt (for example, PLEASE LOG IN:) -- enter an appropriate response, as explained in this manual.
- 3.5 Types of ECONPACK Users: ECONPACK users are of two types: users who are also users of the DD Form 1391 Processor System and users who are not users of the DD Form 1391 Processor System. The way in which ECONPACK is accessed depends upon which category applies to a particular user.

DD Form 1391 Processor System users access ECONPACK in one of two ways:

- 1. Enter the number corresponding to ECONPACK at the PAX System Menu; or
- 2. Enter <u>ECONPACK <CR></u> at a Time-of-Day prompt within the DD Form 1391 Processor System.

Non-DD Form 1391 Processor System users have only one option: i.e., enter the number corresponding to ECONPACK at the PAX System Menu. These procedures are displayed on pages 3-11 through 3-13 of this manual.

In this manual, most examples are written as though the ECONPACK user is also a DD Form 1391 Processor System user. However, it should be noted that procedures for using ECONPACK are exactly the same, whether the user of ECONPACK is a user of the DD Form 1391 Processor System or not.

- 3.6 File Space: Each user is allotted a fixed amount of disk storage space. The report file from several analyses will consume much of this space. Also, a certain amount of disk space is temporarily required during input file creation and report generation. The user may ascertain available disk space in two ways:
  - A. This information will be made available almost immediately after choosing the ECONPACK option from the PAX System Menu, as illustrated below:

#### **EXAMPLE:**

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG

PAX>1 <CR>
PROJECT PAX
CONNECT= 00:01:10 TRU= 7.04 TIO= 1,834
---> 53% OF DISK SPACE AVAILABLE

[Note: The DISK SPACE AVAILABLE notation is also displayed when a user selects the option number corresponding to the DD Form 1391 Processor System from the PAX System Menu.]

B. Type <u>QUERY DISK A <CR></u> or <u>Q DISK A <CR></u> at a Time-of-Day prompt or at a C prompt.

[If user is at a C prompt or the Time-of-Day prompt and wishes to go to the PAX System Menu, <u>LOG <CR></u> should be entered; if user wishes to access ECONPACK, <u>ECONPACK</u> <<u><CR></u> should be entered.]

#### **EXAMPLE:**

#### 10:10:10>QUERY DISK A <CR>

LABEL CUU M STAT BLKSIZE FILES BLKS USED-(%) BLKS LEFT BLK TOTAL BIRD 302 A R/W 1024 39 983-47 1107 2090

[This message states that the user has used 47 percent of total disk space (or that 53 percent of total disk space is available).]

When users have less than 20 percent of their disk space available, ECONPACK prints the following message, notifying them of their status and giving them the opportunity of increasing their storage space:

NOTICE: YOUR APPLICATION DISK IS MORE THAN 80% FULL. THIS IS DANGEROUSLY HIGH. DEPENDING ON YOUR UPCOMING FILE-SAVING ACTIVITIES - YOU MAY WANT TO:

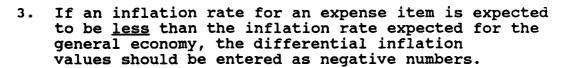
- 1) DO NOTHING ONLY IF YOU HAVE AMPLE SPACE FOR YOUR WORK (NOT RECOMMENDED)
- 2) FREE UP AVAILABLE STORAGE YOU CAN ERASE FILES THAT ARE NO LONGER NECESSARY
- 3) INCREASE YOUR STORAGE A SET NUMBER OF CYLINDERS SEND A PAXMAIL TO V3MCP1 INDICATING YOUR APPLICATION AND CYLINDERS TO BE ADDED (PROCESSED IN 48 HOURS)
- 4) INCREASE YOUR PRESENT STORAGE BY 20% ANSWER THE PROMPT TYPED BELOW AND YOUR STORAGE IS AUTOMATICALLY INCREASED WITHIN 24 HOURS (MIN. INCREASE = 1 CYL)

DO YOU WANT YOUR STORAGE AUTOMATICALLY INCREASED BY 20% (YES/NO) = >>\_\_\_\_\_

3.7 Negative Inputs: The user may be required to use negative inputs on at least three occasions:

- Normally an expense item is a cost. However, if the user desires to show a positive cash flow for a particular alternative, the minus (-) sign may be used to enter that expense item as a negative value. Negative expense items should be avoided in performing a sensitivity analysis.
- The terminal prompting routine will ask if each alternative has a salvage value (also known as a terminal value). Usually a salvage value is a positive number, indicating a nominal sum at which an asset is valued. However, if an expenditure of funds would be required to remove an alternative, the user may reflect this fact by stating the salvage value in negative terms. (For example, demolition costs are expressed as negative numbers.)





3.8 Entering Maintenance and Repair Costs: Normally, certain costs must be incurred on a periodic basis to keep a facility usable (maintenance costs) or to refurbish a facility (repair costs). It is important to correctly state the timing of the costs for a consistent and correct EA.

To illustrate, assume an alternative calls for constructing a facility with a 25-year economic life. Further, assume that it will take 3 years to construct the building. Thus, the period of analysis is 28 years.

Assuming maintenance costs of \$50,000 a year are expected, the correct data entry would be three years of no cost followed by 25 years of \$50,000/year costs. (No maintenance costs would be incurred during the three-year construction phase.)

Assuming the analyst predicts that a new roof costing \$50,000 will be needed in Year 10 of the economic life, the correct data entry for the repair cost would be to show no costs during the first 12 years of the period of analysis, a \$50,000 cost in the 13th year, and 15 more years of zero repair costs.

3.9 Warnings: If using the terminal prompting mode, single quotes should not be used in any input as it will cause major errors in the analysis routine.

Commas or dollar signs should not be used when where entering cost data.

If the user supplies an input filename which is the same as an input filename which already exists, ECONPACK informs the user that that file already exists and that continuing will erase the contents of the file. ECONPACK then asks if the user wishes to continue.

#### **EXAMPLE:**

PLEASE ENTER YOUR INPUT FILE NAME >TEST <CR>

\*\*FILE, TEST, ALREADY EXISTS\*\*
(CONTINUING WILL ERASE THE CURRENT CONTENTS OF THE FILE)



#### EXAMPLE (Continued)

DO YOU WISH TO CONTINUE (Y OR N) > N < CR >

#### PLEASE ENTER YOUR INPUT FILE NAME >[Enter a new input filename.]

Of course, if the user wanted to erase the contents of the current input file in the example above,  $\underline{Y} < CR >$  would be the proper response to the question, "Do you wish to continue?"

## 3.10 Limits on Files Created: The following limits apply to ECONPACK input files:

Maximum Number of Alternatives	20
Maximum Number of Expense Items	
(Costs) per Alternative	20
Maximum Number of Inflation Indexes	10
Maximum Number of Residual Schedules	10
Maximum Number of Alternatives	
to be Graphed (per graph)	-6
Maximum Number of Graphs	4
Maximum Number of Sensitivity Analyses	30
Maximum Percent Change in Sensitivity	200
Analysis	

# 3.11 Procedures For Using ECONPACK: The procedures presented in this section provide instructions for using ECONPACK. The specific procedures explained are:



- II. Logging off ECONPACK and the PAX System
- III. Selecting an Edit Choice
  - IV. Verifying an Edit Choice
  - V. Changing an Edit Choice
  - VI. Selecting a Display Choice
- VII. Verifying a Display Choice
- VIII. Changing a Display Choice

#### NOTES:

1. In all procedure sections, data to be entered by the user is underlined.





- 2. ESCAPE KEY: Once report generation begins, the user should not stop the generation unless something is obviously wrong. If a need to stop the report generation arises, users should depress the ESCAPE key once. The system should respond with a ?? prompt. At the ?? prompt, KT <CR> should be entered to halt report generation. The user will then receive another prompt at which an option from the MAIN ECONPACK MENU should be entered.
- 3. ASSISTANCE FOR ECONPACK: If a problem is encountered in running ECONPACK or in understanding what the program wants for input and the user has tried the /HELP command and has reviewed this manual, the user should contact Huntsville Division ECONPACK Computer Assistance -- AV 742-5266, COM (205) 895-5266, or PAX User ID, BIRD.
- 4. ASSISTANCE FOR EQUIPMENT: If assistance is needed with equipment interface, users should call the Equipment Hotline -- 1-800-428-HELP.
- 5. ASSISTANCE FOR ACQUIRING TYMCOMM COMMUNICATIONS: If a problem is encountered in acquiring TYMCOMM, users should call Mike Rice at AV 285-0578 or COM (202) 272-0578.
- 6. ASSISTANCE FOR THE PAX SYSTEM: If assistance is needed for the PAX System, users should call the McDonnell Douglas Information Systems Group 24-Hour Hotline Toll-Free number: 1-800-331-1497.
- I. Logging on to the PAX System and ECONPACK
  - STEP 1: ESTABLISH TELEPHONE COMMUNICATION WITH THE COMPUTER.

The user must first establish telephone communication with the computer. This step is accomplished in various ways, dependent upon the type of equipment being used as well as how that equipment has been set up. Some users may simply have to turn the equipment on, depress a specified key on the keyboard, and the communications line will be accessed automatically. Others may have to dial the assigned telephone number, listen for a high-pitched sound, and then insert the telephone receiver into the terminal's coupler or release a specified button on the equipment's modem.



Once the appropriate steps have been followed, the system will quickly prompt the user to enter a "terminal identifier." To prompt the user, the system will either display a string of random characters or actually print the words "PLEASE TYPE YOUR TERMINAL IDENTIFIER." The user should respond by entering the appropriate terminal identifier. A terminal identifier indicates to the computer the type of equipment required to communicate with the user's terminal. If the wrong identifier is entered, telephone communication will probably be terminated. [See Appendix B for a list of appropriate terminal identifiers for various types of equipment.]

#### **EXAMPLE:**

Establish communications line.

PLEASE TYPE YOUR TERMINAL IDENTIFIER A -3122-007-

#### STEP 2: LOG ON TO THE PAX SYSTEM.

Once the terminal identifier has been entered, the system will prompt you for the System User ID and System Password assigned the user's activity. These two words identify the user, the programs that user may access, and the activity to be billed for the session. [If the correct System User ID and Password are not entered within 2 1/2 minutes after the user establishes telephone communication, the computer will automatically disconnect.] The system then prompts for a "project code." The user should enter his/her initials. The system then responds by printing the date and time the user logged on to the computer.

Once logged on to the computer, the user has immediate access to the PAX System. The system indicates the PAXMAIL status for the System User ID. [PAXMAIL is a feature of the PAX System which allows PAX users to send messages to each other's ID.] The system then responds with log-on messages which provide a variety of urgent information. Following the log-on messages is a display of the PAX System Menu, in which the system lists the components of the PAX System available to the user. The number of components available to each System User ID will vary. The system then prompts the user to make a selection.

**EXAMPLE:** 

PLEASE LOG IN: [Enter your System User ID.] <CR>

PASSWORD: [Enter your System Password.] <CR>
PROJECT CODE: [Enter your initials.] <CR>

LOGON AT 10:21:47 CDT WEDNESDAY 10/12/87

CMS: R3.P01.V34M 10/28/87 16:03

A (191) R/O

\*\*\*\*\*\*\*\*\*\*\*\*

PAXMAIL STATUS: NO MAIL WAITING

\*\*\*\*\*\*\*\*\*

HUNTSVILLE DIVISION - DD1391/ECONPACK - 205-895-5266

(AV 742-5266)

MCCLENDON AUTOMATION - CAPCES/MYPLAN - 703-876-8408/8409

MCDONNELL DOUGLAS - SYSTEM SUPPORT - 800-331-1497

(W GERMANY )-130-9863)

(W GENERALL 9 130 3003)

#### STEP 3: LOG ON TO ECONPACK.

A. Non-DD Form 1391 Processor System users always access ECONPACK directly from the PAX System Menu by selecting the option corresponding to ECONPACK from the PAX System Menu. The system displays PROJECT PAX, the amount of clock time and computer time used in the PAX System, the percentage of storage space available on the user's ECONPACK permanent disk, the line editor type and display type, welcomes the user to ECONPACK, displays ECONPACK log-on messages, and displays the MAIN ECONPACK MENU. [The line editor feature and display type feature are discussed on page \_\_\_.]

#### **EXAMPLE:**

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. PRINT PAX NEWSLETTER
- 4. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 4 OR LOG

PAX>1 <CR>
PROJECT PAX
CONNECT=

CONNECT= 00:00:15 TRU= 2.77 TIO= 350 89% OF DISK SPACE AVAILABLE

LINE EDITOR TYPE IS IBM; TERMINAL DISPLAY TYPE IS LINE \*\*\* WELCOME TO THE ECONPACK SYSTEM!

\*\*\* VERSION 3.1 (14 JULY 1987)

USERS MAY USE A /QUIT OR A /HELP COMMAND AT ANY PROMPT DURING THE PROMPTING SEQUENCE.

OCE ECONOMIC BRIEFS WILL BE UPDATED MONTHLY BY THE OCE MILCON MANAGEMENT OFFICE. THIS ECONOMIC ANALYSIS NEWSLETTER WILL PROVIDE CURRENT INFORMATION ON DISCOUNT RATES, INFLATION RATES, AND GENERAL NEWS ITEMS.

FOR INFORMATION ABOUT SYSTEM CHANGES AND UPDATES, SEE THE ECONNEWS FEATURE WITHIN THE ECONPACK HELP FACILITY.

PLEASE HIT CARRIAGE RETURN TO CONTINUE ><CR>

#### EXAMPLE: (Continued)

- \*\*\* MAIN ECONPACK MENU \*\*\*
- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

ENTER	DESIRED	OPTION>	
-------	---------	---------	--

- B. DD Form 1391 Processor System users have two ways to access ECONPACK: directly from the PAX System Menu or from within the DD Form 1391 Processor System.
  - 1. Users accessing ECONPACK directly from the PAX System Menu should perform the following operations:
    - A. Enter the number corresponding to ECONPACK at the PAX System Menu.

#### **EXAMPLE:**

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG

PAX>1 <CR>
PROJECT PAX

CONNECT= 00:02:45 TRU=

33.22 TIO=

3,778

83% OF DISK SPACE AVAILABLE

LINE EDITOR TYPE IS QED; TERMINAL DISPLAY TYPE IS LINE

- \*\*\* WELCOME TO THE ECONPACK SYSTEM:
- \*\*\* VERSION 3.1 (14 JULY 1987)
- B. Enter your DD Form 1391 Processor System IDENT word when prompted for identification.

#### **EXAMPLE:**

IDENTIFICATION: >[Enter your IDENT word.]

YOU HAVE JUST ENTERED ECONPACK AS:

USERS MAY USE A /QUIT OR A /HELP COMMAND AT ANY PROMPT DURING THE PROMPTING SEQUENCE.

OCE ECONOMIC BRIEFS WILL BE UPDATED MONTHLY BY THE OCE MILCON MANAGEMENT OFFICE. THIS ECONOMIC ANALYSIS NEWSLETTER WILL PROVIDE CURRENT INFORMATION ON DISCOUNT RATES, INFLATION RATES, AND GENERAL NEWS ITEMS.

FOR INFORMATION ABOUT SYSTEM CHANGES AND UPDATES, SEE THE ECONNEWS FEATURE WITHIN THE ECONPACK HELP FACILITY.

PLEASE HIT CARRIAGE RETURN TO CONTINUE ><CR>

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

ENTER	DESIRED	OPTION>	

- 2. Users accessing ECONPACK from within the DD Form 1391 Processor System should perform the following operations:
  - A. Enter <u>ECONPACK <CR></u> at the Time-of-Day prompt.

#### **EXAMPLE:**

08:18:53>ECONPACK <CR>
ALREADY MONITORING PROCESS.

- \*\*\* WELCOME TO THE ECONPACK SYSTEM!
- \*\*\* VERSION 3.1 (14 JULY 1987)
- B. Enter your Processor IDENT word when prompted for identification.

#### **EXAMPLE:**

YOU HAVE JUST ENTERED ECONPACK AS:

The system then displays the ECONPACK logon messages and the MAIN ECONPACK MENU.

#### **EXAMPLE:**

USERS MAY USE A /QUIT OR A /HELP COMMAND AT ANY PROMPT DURING THE PROMPTING SEQUENCE.

OCE ECONOMIC BRIEFS WILL BE UPDATED MONTHLY BY THE OCE MILCON MANAGEMENT OFFICE. THIS ECONOMIC ANALYSIS NEWSLETTER WILL PROVIDE CURRENT INFORMATION ON DISCOUNT RATES, INFLATION RATES, AND GENERAL NEWS ITEMS.

FOR INFORMATION ABOUT SYSTEM CHANGES AND UPDATES, SEE THE ECONNEWS FEATURE WITHIN THE ECONPACK HELP FACILITY.

PLEASE HIT CARRIAGE RETURN TO CONTINUE ><CR>

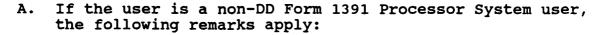
#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

ENTER DESIRED OPTION>\_\_\_\_



#### II. Logging off ECONPACK and the PAX System.



Assuming the user is at the MAIN ECONPACK MENU, select Option 9, Exit to PAX Menu. At the PAX prompt, enter <u>LOG <CR></u>. When the system responds with the prompt, PLEASE LOG IN:, terminate the communications connection.

#### **EXAMPLE:**

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

#### ENTER DESIRED OPTION>9 < CR>

\*\*\* LEAVING ECONPACK \*\*\*

CON FILE 6471 TO BOBIN COPY 001 NOHOLD

PROJECT ECON

CONNECT= 00:01:33 TRU= 12.59

TIO= 1,808

دروي: مروي:

#### PAX SYSTEM MENU

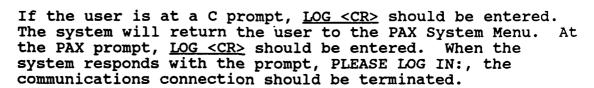
- 1. ECONPACK
- 2. PAXMAIL
- 3. PRINT PAX NEWSLETTER
- 4. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 4 OR LOG

PAX>LOG <CR>
PROJECT PAX

CONNECT= 00:00:14 TRU= 2.32 TIO= 362

LOGOFF AT 11:58:08 CDT WEDNESDAY 09/28/87



#### **EXAMPLE:**

#### C>LOG <CR>

\*\*\* LEAVING ECONPACK \*\*\*

PROJECT ECON

CONNECT= 00:00:13 TRU= 2.33 TIO= 362

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. PRINT PAX NEWSLETTER
- 4. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 4 OR LOG

PAX>LOG <CR>
PROJECT PAX

CONNECT= 00:00:13 TRU= 2.49 TIO= 362

LOGOFF AT 20:16:54 CDT FRIDAY 10/07/87

- B. For DD Form 1391 Processor System users, the log-off procedure used depends upon the way in which ECONPACK was accessed.
  - 1. If ECONPACK was accessed directly from the PAX System Menu, users should enter Option 8 at the MAIN ECONPACK MENU, respond to the question regarding the Huntsville Division Bulletin, enter LOG <CR> at the Time-of-Day prompt, enter LOG <CR> at the PAX prompt, and terminate the communications connection.



#### EXAMPLE:

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

#### ENTER DESIRED OPTION>8 < CR>

#### \*\*\* LEAVING ECONPACK \*\*\*

WOULD YOU LIKE TO READ HUNTSVILLE DIV. BULLETINS

LAST UPDATED:

DATE: 10/16/87 TIME: 08:50

(Y/N)><u>N\_<CR></u>

TYPE HELP FOR AN EXPLANATION OF THE COMMANDS AVAILABLE TO YOU.

12:26:13>LOG <CR>

RUN FILE 9533 TO TRACK3 COPY 001 NOHOLD

PROJECT 1391

CONNECT= 00:01:51 TRU= 29.76 TIO= 2,299

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG

PAX>LOG <CR>

CONNECT = 00:00:14 TRU= 2.34 TIO= 362 LOGOFF AT 12:29:10 CDT THURSDAY 10/22/87

2. If the user accessed ECONPACK from within the DD Form 1391 Processor System, the following comments are appropriate:

Choose Option 8 from the MAIN ECONPACK MENU, enter  $\underline{LOG}$  < $\underline{CR}$  at the Time-of-Day prompt, enter  $\underline{LOG}$  < $\underline{CR}$  at the PAX prompt, and terminate the communications connection.

#### **EXAMPLE:**

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

#### ENTER DESIRED OPTION>8 < CR>

#### \*\*\* LEAVING ECONPACK \*\*\*

12:02:09><u>LOG <CR></u>
RUN FILE 6506 TO TRACK3 COPY 001 NOHOLD
PROJECT 1391
CONNECT= 00:01:58 TRU= 28.45 TIO= 2,186

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG

PAX>LOG <CR>
PROJECT PAX
CONNECT = 00:00:14 TRU 2.39 TIO= 362
LOGOFF AT 12:02:37 CDT FRIDAY 09/28/87



III. Selecting An Edit Mode. ECONPACK users may edit input before adepressing the CARRIAGE RETURN key by using one of two available edit modes: QED or IBM. The first time a user logs on to the ECONPACK System or DD 1391 Processor System, the message below is displayed:

THIS MESSAGE, WHICH WILL APPEAR ONLY ONCE, PROVIDES YOU THE OPPORTUNITY TO SELECT YOUR PREFERENCE OF EDIT MODES FOR THE ECONOMIC ANALYSIS PACKAGE SYSTEM. YOUR SELECTION WILL AUTO-MATICALLY REMAIN IN EFFECT FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. YOU MAY CHANGE EDIT MODES AT A LATER TIME BY TYPING A NEW SELECTION (IBM or QED) AT THE TIME-OF-DAY> OR C>.

#### **EXAMPLE:**

poposon integeral in integration integration of the poposon belocopes. Significant processing statistics

- (1) QED EDITOR = CONTROL A FOR CHARACTER DELETION = CONTROL W - FOR WORD DELETION
  - = CONTROL Q FOR LINE DELETION
  - = CONTROL R FOR PRINTING REVISED LINE BEFORE ENTERING A CARRIAGE RETURN
- (2) IBM EDITOR = 0 FOR CHARACTER DELETION = [ - FOR LINE DELETION

ENTER NUMBER OF CHOICE>\_\_\_\_

If the user enters 1 < CR >, the system prints the following response:

THE QED EDIT MODE WILL AUTOMATICALLY BE USED FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. THIS SELECTION MAY BE CHANGED TO THE IBM EDIT MODE AT ANY TIME BY TYPING "IBM" AT THE TIME-OF-DAY> OR C>.

If the user enters 2 < CR >, the system prints this response:

THE IBM EDIT MODE WILL AUTOMATICALLY BE USED FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. THIS SELECTION MAY BE CHANGED TO THE QED EDIT MODE AT ANY TIME BY TYPING "QED" AT THE TIME-OF-DAY> OR C>.

Users should decide whether to use the IBM edit mode or the QED edit mode and enter  $\frac{1 < CR >}{}$  or  $\frac{2 < CR >}{}$  at the ENTER NUMBER CHOICE prompt. The system then welcomes the user to ECONFACK and displays the MAIN ECONPACK MENU.

# IV. Verifying An Edit Mode

TASK 1: USE PROCEDURE I AND LOG ON TO THE PAX SYSTEM.

TASK 2: VERIFY AN EDIT MODE.

An edit mode may be checked or verified at the Time-of-Day> or C>. The IBM or QED edit mode is controlled on the system by a permanent disk file with the filename filetype, EDIT CHOICE. The Time-of-Day/CMS command, TYPE, may be used to verify the file content.

#### **EXAMPLE:**

08:15:59>TYPE EDIT CHOICE <CR>

If the user's edit mode is IBM, the system responds:

IBM

If the user's edit mode is QED, the system responds:

QED

The system then returns the user to a Time-of-Day prompt or C prompt. 

# V. Changing An Edit Mode

TASK 1: USE PROCEDURE I AND LOG ON TO THE PAX SYSTEM.

TASK 2: CHANGE YOUR EDIT MODE.

An edit mode may be changed at the Time-of-Day> or C>. To change from the IBM edit mode to QED, simply type QED <CR> at the Time-of-Day> or C>. To change from the QED edit mode to IBM, simply type IBM <CR> at the Time-of-Day> or C>.

If a user is using QED and types IBM at the Time-of-Day> or C>, the system responds as follows:

08:15:59><u>IBM <CR></u>

THE IBM EDIT MODE WILL AUTOMATICALLY BE USED FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. THIS SELECTION MAY BE CHANGED TO THE QED EDIT MODE AT ANY TIME BY TYPING "QED" AT THE THE TIME-OF-DAY> OR C>.



#### THE FOLLOWING COMMANDS ARE APPLICABLE IN THIS MODE:

- 1. @ = DELETES A CHARACTER.
- 2. [ = DELETES THE ENTIRE LINE.

The user is then returned to the Time-of-Day> or C>.

If a user is using IBM, and types QED at the Time-of-Day> or C>, the system responds as follows:

10:10:10>QED <CR>

THE QED EDIT MODE WILL AUTOMATICALLY BE USED FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. THIS SELECTION MAY BE CHANGED TO THE IBM EDIT MODE AT ANY TIME BY TYPING "IBM" AT THE THE TIME-OF-DAY> OR C>.

THE FOLLOWING COMMANDS ARE APPLICABLE IN THIS MODE:

- 1. CONTROL A = FOR CHARACTER DELETION
- 2. CONTROL W = FOR WORD DELETION
- 3. CONTROL Q = FOR LINE DELETION
- 4. CONTROL R = FOR PRINTING REVISED LINE BEFORE ENTERING A CARRIAGE RETURN.

The user is then returned to the Time-of-Day> or C>.

VI. <u>Selecting a Display Choice</u>. ECONPACK users must select one of three terminal types: Tymcomm, VT100, or line. Users should consult their communications package manual to determine the proper choice. To select a terminal choice, users simply enter the command, DISPLAY, followed by one of the three choices, followed by a <<u>CR</u>> at the Time-of-Day> or C>.

#### **EXAMPLE:**

10:10:10>DISPLAY [Enter your choice.] <CR> Computer's Response:

ALREADY	MONITORING	<b>PROCESS</b>
10:10:12	2>	

VII. <u>Verifying a Display Choice</u>. To verify a display choice, users enter the command, TYPE, followed by the words, DISPLAY CHOICE, followed by a <<u>CR</u>> at the Time-of-Day> or C>.

# **EXAMPLE:**

10:10:10>TYPE DISPLAY CHOICE <CR>
Computer's Response:

LINE	
10:10:12>	



VIII. Changing an Edit Display Choice. To change a display choice, users simply follow the procedure outlined in Section VI above. That is, type the command, DISPLAY, followed by the new choice, followed by a <CR>, at the Time-of-Day> or C>.

#### **EXAMPLE:**

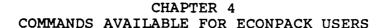
20:40:59><u>DISPLAY VT100 <CR></u>Computer's Response:

ALREADY MONITORING PROCESS. 20:41:00>\_\_\_\_\_

3.12 PC-ECONPACK: Two versions of ECONPACK are now available: the mainframe application (which is the subject of this manual) and the personal computer application, available on diskettes. The PC-ECONPACK version includes the capability to upload/download files to/from the mainframe ECONPACK system. This interchange capability enables analysts to develop EAs on PC-ECONPACK off-line and upload the EA input file to the mainframe for transmisssion to a DD1391 Form. Users may consult Appendix F for instructions on interfacing PC-ECONPACK with the PAX Mainframe System.







# 4 0 COM

#### 4.0 COMMANDS AVAILABLE FOR ECONPACK USERS

- 4.1 Introduction: ECONPACK users have many commands available for their use in creating files, modifying files, and manipulating the system. The purpose of this chapter is to identify the available commands and explain their use. Four types of commands are discussed: text editor commands, Time-of-Day/CMS commands, monitor ready commands, and general commands.
- 4.2 Text Editor Commands: Text editor commands may be used to create files or modify existing files which are currently being edited. A quick reference guide to text editor commands available for ECONPACK users is provided in this section. Complete instructions may be found in the DD FORM 1391 PROCESSOR SYSTEM USERS MANUAL.

# QUICK REFERENCE GUIDE TEXT EDITOR COMMANDS

Note: [ ] indicates optional parameters.

- / indicates a delimiter that sets off a string of characters.
- \* indicates the current line and all lines below will be affected by the command.
- \_ underlined letters indicate the shortened version of a text editor command.
- <u>UPPERCASE LETTERS</u> Indicate exact words or abbreviated form must be entered.
- LOWERCASE LETTERS Indicate parameters entered in the command format.

	COMMAND	FUNCTION
1.	BOTTOM	Positions the line pointer at the last line of text.
2.	CASE M	Allows the user to use both uppercase and lowercase letters when entering and/or editing files identified by filetypes other than MEMO. (Optional) This should be used with filetype, FT75F001 (input file).



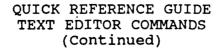


# QUICK REFERENCE GUIDE TEXT EDITOR COMMANDS (Continued)

	COMMAND	FUNCTION
3.	<pre>CHANGE/old string/new string/[lines[*]]      *</pre>	Changes a character string in one or more lines.
4.	<pre>DELETE [lines]  *</pre>	Begins with the current line and deletes the specified number of lines.
5.	<u>D</u> OWN [lines]	Advances the line pointer the specified number of lines.
6.	FILE	Saves the current file and returns to the CMS/Time-of-Day prompt.
7.	<u>GET</u> FILE filename filetype	Inserts the contents of the specified file into the current file beginning at the current line.
8.	GOTO linenumber	Moves the line pointer to the line.
9.	<u>I</u> NPUT [new line]	Causes the system to enter the input mode so one or more lines can be entered after the current line. To exit the input mode, enter <cr> at an I prompt. The line pointer is positioned at the last line entered. If user types INPUT and enters a line of data, the system adds the line to the temporary copy and returns to an I&gt;. If user is entering only one line of text, the user may wish to enter INPUT and text. The system will return to an E&gt;.</cr>
10.	<u>L</u> OCATE /string/	Searches down the temporary file for the specified string and moves the line pointer to the line containing the first occurrence of that string. Users may want to be at the top of the file before executing this command.

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COMMAND	FUNCTION
11. NEXT [lines]	Advances the line pointer the specified number of lines.
12. <u>PUT</u> FILE filename filetype A [lines] *	Copies a range of lines to the specified permanent disk file. The lines copied will start with the current line. If the specified permanent disk file already exists, the lines will be added to the end of that file.
13. QUIT	Returns the system to the C>/Time- of Day> without saving the temporary file or exits the text information block without saving the file and continues with the prompting sequence.
14. REPLACE new line	Deletes the current line and replaces it with the specified new line. The line pointer is positioned at the last line entered.
15. TABSET position list	Allows the user to specify tabulation stops. [Users should consult the DD FORM 1391 PROCESSOR SYSTEM USERS MANNUAL for more information of using the TABSET command.]
16. TOP	Moves the line pointer to TOF:, the imaginary line above the first line of text.
17. TYPE [lines] *	Beginning with the current line, the system prints the specified number of lines and moves the line pointer to the last line printed. If no number is specified, only the current line is printed.



# QUICK REFERENCE GUIDE TEXT EDITOR COMMANDS (Continued)

	COMMAND	FUNCTION
18.	UP [lines] *	Moves the line pointer up the specified number of lines from the current line (if a number is specified) or searches up for the specified string of characters and moves the line pointer to the line containing the first occurrence of that string (if a string of characters is specified.)
19.	<u>V</u> ERIFY	Controls the printing of a current line after various text editor commands are issued.
20.	<u>w</u> here	Prints the current line number.
21.	ZONE [position1 position2]	Establishes a portion of the data line to be scanned and/or updated by LOCATE, CHANGE, and UP commands. The two position numbers specify the first and last column positions. Omitting the optional parameters displays the current zone settings.
22.	\$FROMPC	Using Tymcomm, this command allows users to copy files from the PC to the PAX System.
[Not	e: See the DD FORM 1391	PROCESSOR USERS MANUAL for proce-

[Note: See the DD FORM 1391 PROCESSOR USERS MANUAL for procedures on entering text. These commands can be used to edit files on the user's ECONPACK permanent disk and the DD Form 1391 Processor permanent disk.]

4.3 CMS/Time-of-Day Commands: For non-DD Form 1391 Processor System users, Option 8 on the MAIN ECONPACK MENU is CMS. If the user selects this option, several commands are available which allow the user greater flexibility in creating input files, editing existing files, etc. These commands are also valid at the Time-of-Day prompt in the DD Form 1391 Processor System. In this section, the CMS/Time-of-Day commands are presented. A Quick Reference Guide is provided which gives users the name, general function, and page number of the detailed description of each command. Beginning on page 4-10, a detailed description is presented for each command. The presentation of each command is divided into six major sections, as Figure 4-1 illustrates.

# Figure 4.1. Presention of CMS/Time-of-Day Command

1. CMS/TIME-OF-DAY COMMAND

QUERY

3. FORMAT:

QUERY (Keyword)

4. PARAMETERS:

KEYWORD: NAMES

Specific System User ID

REGRESSON DESCRIPTION DESCRIPTION DESCRIPTION

<u>TI</u>ME

TRU USERS <u>DI</u>SK

5. NOTES:

NONE.

6. <u>VARIATION A:</u> QU

QUERY NAMES

<u>FUNCTION:</u> System prints a list of all System User IDs currently logged on to the PAX System.

#### EXAMPLE:

Command issued: 10:10:10>QUERY NAMES <CR>

#### Computer's response:

CAPOO6 -EF1, FRED -DE8, V3MCC -DED, LACEE -DSC MAURICE -DSC, SHARPS -EE6, BIRD -333, NELSON -DEA CAPSINK -DSC, V3NAF -DF8, -DF3, DARWIN CHUCK2N -EF4

SUMMARY:

The system printed a list of all System User IDs currently logged on to the PAX System.

<u>VARIATION B:</u> QUERY (specific System User ID.)

FUNCTION: System verifies whether the specified System User ID is currently logged on to the PAX System.

#### EXAMPLE 1:

Command issued: 10:10:10>QUERY BIRD <CR>

Computer's response: BIRD -EE3

# Figure 4-1. Presentation of A CMS/Time-of-Day Command

# CMS/TIME-OF-DAY COMMAND

OUERY

FORMAT:

QUERY Keyword

PARAMETERS:

Keyword:

NAMES

specific System User ID

TIME TRU **USERS** DISK

NOTES:

None.

VARIATION A:

QUERY NAMES

System prints a list of all System User IDs FUNCTION:

currently logged on to the PAX System.

**EXAMPLE:** 

Command issued:

C>QUERY NAMES <CR>

Computer's response:

CAP006 -EF1, FRED -DEB, **V3MCC** -DED, LACEE MAURICE -DSC, SHARPS -EE6, BIRD -EE3, NELSON CAPSINK -DSC, **V3NAF** -DF8. DARWIN -DF3, CHUCK2N -EF4

SUMMARY:

The system printed a list of all System User IDs currently logged on

-DSC

-DEA

to the PAX System.

<u>VARIATION B:</u> QUERY specific System User ID.

FUNCTION: System verifies whether the specific System

User ID is currently logged on to the PAX System.

EXAMPLE 1:

C>QUERY BIRD <CR> Command Issued:

Computer's response: BIRD -EE3

QUERY
(Continued)

(1)	Command	-	Identifies the name of the command category.
(2)		-	Contains the name of the command.
(3)	FORMAT	-	Specifies the format in which the command must be issued. The following symbols are used to describe the format.
	UPPERCASE LETTERS		Indicate exact words or abbreviated form must be entered.
	LOWERCASE LETTERS	-	Indicate parameters entered in the command format as described below in Section (4) - PARAMETERS.
purp			ercase letters are used for illustrative may be entered in either uppercase or
	<u>PARENTHESES</u>	-	Indicate optional parameters. They are for illustrative purposes only and should not be typed when optional parameters are specified.
(4)	PARAMETERS	-	Specify additional information the user may have to include.
(5)	NOTES	-	Provide the user with additional information.
(6)	<u>VARIATIONS</u>	-	Each variation of a command is described in detail. This section specifies the specific format of the variation (6), describes the function (6a), and provides an example (6b). In the example, underlining indicates data to be entered by the user. A <cr> indicates the user must depress the CARRIAGE RETURN key.</cr>

# QUICK REFERENCE GUIDE CMS/TIME-OF-DAY COMMANDS



	COMMAND	FUNCTION	PAGE
1.	COPY	Creates a new file on the ECONPACK permanent disk containing a duplicate copy of the specified existing file.	4-10
2.	DD1391	Accesses the DD Form 1391 Processor. The DD Form 1391 Processor is used to prepare and modify a DD1391 Form.	4-11
3.	<u>ECON</u> PACK	Returns the user to the MAIN ECONPACK MENU.	4-12
4.	<u>E</u> DIT	Creates a temporary file, prints NEW FILE:, and prompts the user for a text editor command.	4-13
5.	ERASE	Deletes the specified file from the	4-15
		ECONPACK permanent disk.	
6.	IBM	Changes the line editor from the QED editor to the IBM editor.	4-16
7.	<u>L</u> IST	Prints a list of files entered on the user's storage space on the permanent disk. Variations of the command will print all the files with the specified filetype.	4-17
8.	LISTR	Prints specific information about the files on the user's storage space on the ECONPACK permanent disk. The list is arranged alphabetically according to filetype. Variations of the command will print information only for files with the specific filename or filetype. The listing includes the following information: filename, filetype, file mode, line format, number of lines, number of blocks of storage space used, and the date and time the file was created or last modified.	4-20
9.	LISTS	Same as LISTR except the list is arranged in alphabetical order according to filenames.	4-24
10.	LOG	Exits the CMS environment or DD Form 1391 Processor System and returns to a PAX prompt. Also exits the PAX System when entered at a PA prompt.	4-28 X



# QUICK REFERENCE GUIDE CMS/TIME-OF-DAY COMMANDS (Continued)

			QUICK REFERENCE GUIDE CMS/TIME-OF-DAY COMMANDS (Continued)	
		COMMAND	FUNCTION	FAGI
	11.	MSG	Allows a user to send a one-line message to another user currently logged on to the PAX System. The message cannot be longer than 130 characters or contain more than 13 words. Each word cannot contain more than 8 characters.	4-29
	12.	QED	Changes from the IBM editor to the QED editor.	4-31
	13.	QUERY	Prints information concerning the system such as the specific System User IDs which are currently logged on to the PAX System.	4-32
tu.	14.	<u>REN</u> AME	Changes the filename and filetype of an existing file on the ECONPACK permanent disk to the specified new filename and filetype.	4-36
÷	15.	SET	Prevents messages sent as a result of the MSG command from being printed at the user's terminal. The system notifies the sender that the receiver is not receiving messages.	4-37
	16.	<u>SL</u> EEP	Allows messages sent by the CMS/Time-of-Day command, MSG, to be printed at the user's terminal as soon as they are sent. The user does not need to enter a CARRIAGE RETURN to receive the messages.	4-39
	17.	<u>T</u> YPE	Prints the contents of the specified ECONPACK permanent disk file.	4-4(
			4-9	





#### COPY

FORMAT:

COPY (fn1) (ft1) (fm) (fn2) (ft2) (fm)

PARAMETERS:

fn1 f1: The filename and filetype of an existing ECONPACK permanent disk file.

fn2 ft2: The filename and filetype of the new duplicate file to be entered on the user's ECONPACK permanent disk.

(fm)a: File mode.

NOTES:

If fn2 ft2 currently exists, then the existing file must be erased prior to copying the fn1

ft1 file.

FUNCTION:

The system creates a new file on the ECONPACK permanent disk containing a duplicate copy of

the specified existing file.

# **EXAMPLE:**

Command issued: 10:10:10>COPY TEST FILE1 A TEST2 FILE2 A <CR>

Computer's response: 10:10:30>

Summary:

The system made a duplicate copy of the contents of the file, TEST FILE1, entered it in a new file named TEST2 FILE2, and prompted the user at the Time-of-Day prompt.





DD1391

FORMAT:

DD1391

PARAMETERS:

None.

NOTES:

The DD Form 1391 Processor is the component of the DD Form 1391 Processor System in which forms are

prepared, modified, and monitored.

**FUNCTION:** 

The system accesses the DD Form 1391 Processor and prompts the user for the appropriate Processor Identification (IDENT) word.

# **EXAMPLE:**

Command issued: 11:05:07>DD1391 <CR>

# Computer's response:

\*\*\*WELCOME TO DD1391 PROCESSOR!

\*\*\*VERSION 7.1 22 FEB 85

IDENTIFICATION:>[User enters IDENT word.] <CR>

Summary: The system accessed the DD Form 1391 Processor and

prompted the user for the appropriate IDENT word.





### **ECONPACK**

FORMAT:

ECONPACK

PARAMETERS: None.

FUNCTION:

This command moves the user to the MAIN

ECONPACK MENU.

#### EXAMPLE:

Command issued: 10:10:10>ECONPACK <CR>

# Computer's response:

ALREADY MONITORING PROCESS.

- WELCOME TO THE ECONPACK SYSTEM:
- VERSION 3.1 (14 JULY 1987)

INDENTIFICATION:>[Enter your IDENT word.]

YOU HAVE JUST ENTERED ECONPACK AS:

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- ADD TO OR CHANGE AN EXISTING INPUT FILE
- GENERATE ECONOMIC ANALYSIS REPORTS
- PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- EXIT TO DD1391 PROCESSOR

ENTER DESIRED OPTION>\_\_\_\_

The system moved the user to the MAIN Summary: ECONPACK MENU and prompted the user to enter a menu option number.



EDIT

FORMAT:

EDIT(fn)(ft)

PARAMETERS: fn ft: The filename (fn) and filetype (ft) used to identify the file on the ECONPACK permanent disk.

> Note: Both the filename and filetype may contain a maximum of eight characters; each character may be a letter, a digit, a period (.), or a dollar sign (\$). Neither name may contain a blank space.

NOTES:

- 1. Whenever accessing a file on the permanent disk, the user must enter both the filename and filetype.
- For organizational purposes, it is recommended the user enter a filename and filetype that reflect the content of the file.
- 3. FT75F001 = Input file FT76F001 = Report file

FUNCTION 1: If a permanent file with the specified filename and filetype does not exist, the system creates a temporary file, prints NEW FILE:, and prompts the user for a text editor command.

> The temporary file will become a permanent file after the text editor command, FILE, is issued.

#### EXAMPLE:

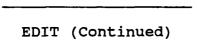
Command issued:

10:10:10><u>EDIT COMMENT 1 <CR></u>

Computer's response: NEW FILE:

E>





#### Summary:

The system created a temporary file, printed NEW FILE: to notify the user the file was new, and prompted for a text editor command.

FUNCTION 2: If a permanent file with the specified filename and filetype exists on the permanent disk, the system creates a duplicate temporary file and prompts the user for a text editor command.

E>\_

Note: Any modifications to the temporary file will not become part of the permanent file until the text editor command, FILE, is issued.

### EXAMPLE:

Command issued:

10:10:10>EDIT COMMENT 3 <CR>

Computer's response:

Summary:

The system created a duplicate temporary file for the existing file, COMMENT 3, and prompted the user for a text editor command.



ERASE

FORMAT:

ERASE (fn) (ft)

PARAMETERS:

fn ft: Filename and filetype of the file to be

deleted.

NOTES:

None.

**FUNCTION:** 

The system deletes the specified file from the

ECONPACK permanent disk and prompts for another

command.

**EXAMPLE:** 

Command issued:

10:10:10>ERASE D1BAR MEMO <CR>

Computer's response:

10:10:15>\_\_

Summary:

The system deleted the file, D1BAR MEMO,

from the user's permanent disk and

prompted the user for another command.



IBM

FORMAT:

IBM

PARAMETERS:

None.

NOTES:

This command need only be entered if the system is operating in the QED edit mode and the user

wishes to use the IBM edit mode.

FUNCTION:

The system changes to the IBM edit mode and prompts for another Time-of-Day/CMS command.

#### EXAMPLE:

Command issued:

10:10:10><u>IBM <CR></u>

Computer's response:

THE IBM EDIT MODE WILL AUTOMATICALLY BE USED FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. THIS SELECTION MAY BE CHANGED TO THE QED EDIT MODE AT ANY TIME BY TYPING "QED" AT THE TIME-OF-DAY> OR C>.

THE FOLLOWING COMMANDS ARE APPLICABLE IN THIS MODE:

1. @ = DELETES A CHARACTER.

2. [ = DELETES THE ENTIRE LINE.

Summary:

The system changed the user's edit mode to IBM and returned to the Time-of-Day> or C>.

LIST

FORMAT:

LIST (fn) (ft)

PARAMETERS:

fn: The filename of an existing file on the

ECONPACK permanent disk.

ft: The filetype of an existing file on the

ECONPACK permanent disk.

\*: An asterisk denoting "all".

NOTES:

 All variations of this command list only those files located on the user's storage space on the

ECONPACK permanent disk.

All files appearing on the list are not created by users at the activity. Some of the files are required for programming purposes and

cannot be removed by the user.

VARIATION A: LIST

FUNCTION:

The system prints a list of all files entered on the user's storage space on the ECONPACK permanent disk.

#### **EXAMPLE:**

Command issued: 10:10:10>LIST <CR>

Computer's response: DOFCPRS STATUS **A1** 

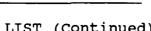
> FILE FT75F001 **A1** FILE FT76F001 A1 FN4 FN4. **A**1 LOAD MAP **A5** NEW FILE **A**1 PROFILE EXEC A1

10:10:15>\_\_\_\_\_

Summary:

The system printed a list of all files on the user's storage space on the

ECONPACK permanent disk.



LIST (Continued)

<u>VARIATION B:</u> LIST (fn) (ft)

FUNCTION: If the file specified by its filename and file-

type is entered on the user's storage space on the ECONPACK permanent disk, the system will

print its filename and filetype.

EXAMPLE:

Command issued: 10:10:10> LIST SR\* MEMO <CR>

Computer's response: SR2 MEMO A1

10:10:15>\_\_\_\_

Summary: The system listed the specified file

from the user's storage space on the

ECONPACK permanent disk.

VARIATION C: LIST (fn) \*

FUNCTION: The system lists all files which have been

assigned the specified filename.

EXAMPLE:

Command issued: 10:10:10><u>LIST\_COMMENT \* <CR></u>

Computer's response: COMMENT ONE A1

COMMENT THREE A1 COMMENT TWO A1

Summary: The system listed all files containing

the filename, COMMENT.

# LIST (Continued)

AND THE PROPERTY OF THE PROPER

<u>VARIATION D:</u> LIST \* (ft)

FUNCTION: The system lists all files which have been

assigned the specified filetype.

EXAMPLE:

Command issued: 10:10:10>LIST \* MEMO <CR>

Computer's response: ADMIN MEMO

BARRACKS MEMO

HOSP MEMO SR2 MEMO

Summary: The system listed all the files which

contained the filetype, MEMO.

#### LISTR

\* \*

FORMAT: LISTR (fn) (ft)

<u>PARAMETERS:</u> fn: The filename of an existing file on the ECONPACK permanent disk.

ft: The filetype of an existing file on the ECONPACK permanent disk.

\*: An asterisk denoting "all".

NOTES:

1. The LISTR command provides the following information on each file:

FILENAME The filename of an existing file

on the permanent disk.

FILETYPE The filetype of an existing file on

the permanent disk.

FM File mode.

FORMAT The file's format. Most files will

have an "F". This indicates the length of each record or line.

LRECL Line record length - 80 characters.

RECS The number of records in the file.

BLOCK The storage space on the permanent

disk is divided into blocks, each block containing 10 records or lines. The number entered under this heading

indicates the number of blocks

currently being occupied by the file.

DATE The date the file was created or last

modified.

TIME The time of day the file was created

or last modified.



# LISTR (Continued)

- 2. All variations of this command list only those files located on the user's storage space on the permanent disk.
- 3. Not all files appearing on the list are created by users at the activity. Some of the files are required for programming purposes and cannot be removed by the user.

# **VARIATION A:** LISTR

# **FUNCTION:**

The system prints a list of all files on the user's storage space on the permanent disk. The list is arranged alphabetically according to the filetypes and includes specific information on each file.



# **EXAMPLE:**

Command issued: 10:10:10>LISTR <CR>

# Computer response:

FILENAME	FILETYPE	FM	FORMAT		RECS	BLOCKS	DATE	TIME
EDIT	CHOICE	<b>A</b> 1	v	3	1	1	1/11/86	23:26:
+ABEND	EXEC	A1	V	40	22	1	1/11/86	23:29:
PROFILE	EXEC	A1	V	22	11	1	9/11/85	5:44:
SALLY	FT75F001	<b>A1</b>	F	80	34	3	1/08/86	19:05:
TEST	FT75F001	<b>A1</b>	F	80	247	20	1/11/86	15:57:
SALLY	FT76F001	<b>A</b> 1	F	133	56	8	1/08/86	19:05:
TEST	FT76F001	A1	F	133	729	95	1/11/86	15:37:

10:10:15>\_\_\_\_\_

# Summary:

The system printed various types of information about all the files on the user's storage space on the permanent disk. The list was organized alphabetically according to the filetypes.



LISTR (Continued)

VARIATION B:

LISTR (fn)(ft)

**FUNCTION:** The system prints information pertaining to the

file specified by its filename and filetype.

**EXAMPLE:** 

Command issued: 10:10:10>LISTR TEST FT76F001 <CR>

Computer's response:

FILENAME FILETYPE FM FORMAT **RECS BLOCKS** DATE TIME

TEST FT76F001 A1 F 133 729 95 15:37: 1/11/86

10:10:15>

The system printed information for the Summary:

specified file, TEST FT76F001.

VARIATION C: LISTR (fn) \*

The system prints information pertaining to all FUNCTION:

files which have been assigned the specified

filename.

**EXAMPLE:** 

Command issued: 10:10:10><u>LISTR TEST \* <CR></u>

Computer's response:

**FILENAME** FILETYPE FM FORMAT **RECS BLOCKS** DATE TIME TEST FT75F001 80 247 20

A1 F 1/11/86 15:57: TEST FT76F001 A1 F 729 1/11/86 133 95 15:37:

10:10:15>\_

The system printed information regarding Summary:



# LISTR (Continued)

<u>VARIATION D:</u> LISTR \* (ft)

FUNCTION: The system prints information pertaining to all

files which have been assigned the specified

filetype.

# **EXAMPLE:**

Command issued: 10:10:10>LISTR \* FT75F001 <CR>

# Computer's response:

FILENAME	FILETYPE	FM	FORMAT		RECS	BLOCKS	DATE	TIME
SALLY TEST	FT75F001 FT75F001		_	80 80	34 247	3 20	1/08/86 1/11/86	

10:10:15>\_\_\_\_\_

Summary:

The system printed information regarding all files containing the filetype, FT75F001.



LISTS

LISTS (fn) (ft) FORMAT:

The filename of an existing file on the PARAMETERS: ECONPACK permanent disk.

> The filetype of an existing file on the ECONPACK permanent disk.

An asterisk denoting "all".

NOTES: The LISTS command provides the following information on each file listed:

> FILENAME The filename of an existing file on the permanent disk.

> FILETYPE The filetype of an existing file on permanent disk.

FM File mode.

**FORMAT** The file's line format. Most files will have an "F". This means that the length of each record, or line, is "fixed" (F).

LRECL Line record length - 80 characters.

**RECS** The number of records or lines in the file.

BLOCK Storage space on the permanent disk is divided into blocks, each block containing 10 lines. The number entered under this heading indicates the number of blocks currently being

occupied by the file.

DATE The date the file was created or last

modified.

TIME The time of day the file was created

or last modified.



# LISTS (Continued)

- 2. All variations of this command list only those files located on the user's storage space on the permanent disk.
- 3. All files appearing on the list are not created by users at the activity. Some of the files are required for programming purposes and cannot be removed by the user.

# **VARIATION A:** LISTS

#### FUNCTION:

The system prints a list of all files on the user's storage space on the permanent disk. The list is arranged alphabetically according to the filenames and includes specific information pertaining to each file.



#### EXAMPLE:

Command issued: 10:10:10>LISTS <CR>

# Computer's response:

FILENAME	FILETYPE	FM	FORMAT		RECS	BLOCKS	DATE	TIME
+ABEND	EXEC	<b>A</b> 1	V	40	22	1	1/11/86	23:29:
SALLY	FT75F001	A1	F	80	34	3	1/08/86	19:05:
SALLY	FT76F001	A1	F	133	56	8	1/08/86	19:05:
EDIT	CHOICE	A1	V	3	1	1	1/11/86	23:26:
PROFILE	EXEC	A1	V	22	11	1	9/13/85	5:44:
TEST	FT75F001	A1	F	80	247	20	1/11/86	15:57:
TEST	FT76F001	A1	F	133	729	95	1/11/86	15:37:

#### Summary:

The system printed various types of information pertaining to all the files on the user's storage space on the permanent disk. The list was organized alphabetically according to the filename.





# LISTS (Continued)

VARIATION B: LISTS (fn)(ft)

The system prints information pertaining to the **FUNCTION:** file specified by its filename and filetype.

**EXAMPLE:** 

Command issued: 10:10:10>LISTS TEST FT76F001 <CR>

Computer's response:

RECS **BLOCKS** DATE TIME FILENAME FILETYPE FM FORMAT TEST FT76F001 A1 F 133 729 95 1/11/86 15:37:

10:10:15>

The system printed information about the Summary:

specified file, TEST FT76F001.

VARIATION C: LISTS (fn) \*

The system prints information pertaining to all FUNCTION:

files which have been assigned the specified

filename.

EXAMPLE:

Command issued: 10:10:10>LISTS TEST \* <CR>

Computer's response:

FILENAME FILETYPE FM FORMAT RECS BLOCKS DATE TIME 20 1/11/86 15:57: TEST FT75F001 A1 F 80 247 729 95 1/11/86 15:37: TEST FT76F001 A1 F 133

10:10:15>\_\_\_

System printed information related to Summary:

all files containing the filename, TEST.





# LISTS (Continued)

<u>VARIATION D:</u> LISTS \* (ft)

FUNCTION: The system prints information pertaining to all

files which have been assigned the specified

filetype.

# **EXAMPLE:**

Command issued: 10:10:10>LISTS \* FT75F001 <CR>

# Computer's response:

FILENAME	FILETYPE	FM	FORMAT		RECS	BLOCKS	DATE	TIME
SALLY TEST	FT75F001 FT75F001			80 80			1/08/86 1/11/86	

10:10:12>\_\_\_\_\_

Summary:

The system printed information pertaining to all files containing the filetype, FT75F001.



LOG

FORMAT:

LOG

PARAMETERS:

None.

NOTES:

None.

FUNCTION:

The system returns to the PAX System and prompts for a selection from the PAX System Menu.

[Note: Before returning to the PAX System, the computer prints the amount of clock time (CONNECT) and computer time (TRU) the user has used since accessing the ECONPACK System.]

**EXAMPLE:** 

Command issued: 10:10:10>LOG <CR>

Computer's response:

\*\*\* LEAVING DD1391 PROCESSOR SYSTEM \*\*\*

PROJECT 1391

CONNECT=

00:57:40 TRU=

22.70 TIO=

8,102

#### PAX SYSTEM MENU

- **ECONPACK** 1.
- 2. PAXMAIL
- DD1391 PROCESSOR 3.
- PRINT PAX NEWSLETTER 4.
- CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG

PAX>LOG <CR>

**Summary:** 

The system returned to the PAX System and prompted the user for a response.



FORMAT: MSG (user ID) ( message)

PARAMETERS: user ID: System User ID for user currently

logged on to the computer.

message: A one line message with the following

characteristics:

It cannot contain more than 130 characters.

It cannot contain more than 13 words.

Each word cannot contain more than 8 characters.

NOTES:

- 1. The command, QUERY NAMES, will list the IDs for all users of PAX currently logged on to the system. Any of the IDs listed may be sent a message by the MSG command.
- 2. If the System User ID is unknown, the DD Form 1391 Processor System Time-Of-Day command, WHOISIT, can be used to obtain the ID of a particular activity.
- 3. A user can lock out incoming MSGs from other users by issuing the command, SET MSG OFF.
- 4. The user issuing the MSG command is not notified when the user to whom the message was sent receives it. The user is notified if the user to whom the message was sent is not logged on to the computer.

# **FUNCTION:**

The system prints the MSG as soon as the user to whom it was sent enters a CARRIAGE RETURN.\*

\*A user need not enter a CARRIAGE RETURN to receive a MSG if the command, SLEEP, is in effect.

MSG	(Continued)

### **EXAMPLE:**

SSSSE PROPERTY FOR THE PROPERTY OF THE PROPERT

Command issued:

10:10:10>MSG\_BIRD\_THANKS\_FOR\_QUICK

RESPONSE TO PROBLEM. <CR>

Computer's response to sender: 10:10:15>

Computer's response to receiver after a CARRIAGE RETURN is entered:

MSG FROM TRAING: THANKS FOR QUICK RESPONSE TO PROBLEM.

Summary: The system stored the message until the

receiver entered a CARRIAGE RETURN.
When the receiver entered a CARRIAGE
RETURN the system then printed the ID of

the user who sent the message and the

message.

QED

FORMAT:

QED

PARAMETERS:

None.

NOTES:

There are two edit modes, the IBM and the QED, in which the system may operate. These edit modes only affect the methods of deleting characters from a data line BEFORE the CARRIAGE

RETURN key has been depressed.

FUNCTION:

The system changes to the QED edit mode and prompts the user for another command.

# **EXAMPLE:**

Command issued: 10:10:10>QED <CR>

# Computer's response:

THE QED EDIT MODE WILL AUTOMATICALLY BE USED FOR THIS AND SUBSEQUENT TERMINAL SESSIONS. THIS SELECTION MAY BE CHANGED TO THE IBM EDIT MODE AT ANY TIME BY TYPING "IBM" AT TIME-OF-DAY> OR C>.

#### THE FOLLOWING COMMANDS ARE APPLICABLE IN THIS MODE:

- 1. CONTROL A = FOR CHARACTER DELETION
- 2. CONTROL W = FOR WORD DELETION
- 3. CONTROL Q = FOR LINE DELETION
- 4. CONTROL R = FOR PRINTING REVISED LINE BEFORE ENTERING A CARRIAGE RETURN

10:12:01>_	1	0:	12	: (	)1>	
------------	---	----	----	-----	-----	--

Summary:

The system changed to the QED edit mode and prompted the user with a Time-of-Day prompt.



#### QUERY

FORMAT:

いっというかのは、これのなるなのないできないというというと

**QUERY** (Keyword)

PARAMETERS:

KEYWORD: NAMES

Specific System User ID

TIME

TRU USERS <u>DI</u>SK

NOTES:

NONE.

VARIATION A:

QUERY NAMES

FUNCTION: System prints a list of all System User IDs

currently logged on to the PAX System.

### EXAMPLE:

Command issued: 10:10:10>QUERY NAMES <CR>

Computer's response:

CAP006 -EF1, FRED -DE8, V3MCC -DED, LACEE -DSC MAURICE -DSC, SHARP5 -EE6, BIRD -333,NELSON -DEA CAPSINK -DSC, **V3NAF** -DF8, DARWIN -DF3, CHUCK2N -EF4

SUMMARY:

The system printed a list of all System User IDs currently logged on to the PAX System.

<u>VARIATION B:</u> QUERY (specific System User ID.)

FUNCTION: System verifies whether the specified System User

ID is currently logged on to the PAX System.

# EXAMPLE 1:

Command issued: 10:10:10>QUERY | URD < CR>

Computer's response: BIRD -EE3

QUERY (Continued)

Summary: The system confirmed that System User

ID, BIRD, was currently logged on to the

PAX System.

EXAMPLE 2:

Command issued: 10:10:10>QUERY BIRD <CR>

DMKCQG045E BIRD NOT LOGGED ON Computer's response:

Summary: The system notified the user that the

ID, BIRD, was not currently logged on to

the computer.

VARIATION C: QUERY TIME

**FUNCTION:** 

The system displays the current time, the date, and the amount of connection time since the user accessed the ECONPACK System at the PAX prompt.

**EXAMPLE:** 

Command issued: 10:10:10>QUERY TIME <CR>

Computer's response:

TIME IS 14:45:32 CDT WEDNESDAY 10/28/87

CONNECT= 01:02:31: VIRTCPU = 000:00.98 TOTCPU= 000:04:13

The system specified the total clock Summary:

time (hours, minutes, seconds) the user

had been logged on to the ECONPACK System component of the PAX System.



#### **VARIATION D: QUERY TRU**

FUNCTION: The system lists the total clock time (hours,

minutes, seconds) and the number of TRUs used since the user accessed the ECONPACK System at

the PAX prompt.

**EXAMPLE:** 

Command issued: 10:10:10>QUERY TRU <CR>

Computer's response:

PROJECT ECON

CONNECT= 01:02:41 TRU= 32.19 TIO= 23,338

Summary: The system specified the connection time

> and the amount of TRUs used since the user accessed the ECONPACK System.

**VARIATION E: QUERY USERS** 

The system lists the number of users currently FUNCTION:

logged on to the PAX System.

**EXAMPLE:** 

Command issued: 10:10:10>QUERY USERS <CR>

Computer's response: 028 USERS, 000 DIALED

Summary: System specified the number of users

currently logged on to the PAX System.

VARIATION F: QUERY DISK

FUNCTION: The system displays information regarding the

user's ECONPACK permanent disk files.



\_\_\_\_\_

QUERY (Continued)

# **EXAMPLE:**

Command issued:

10:10:10>QUERY DISK <CR>

# Computer's response:

				BLK-		BLKS-	BLKS-	BLK-
LABEL	CUU	M	STAT	SIZE	FILES	USED-(%)	LEFT	$\mathtt{TOTAL}$
HNDECO	302	A	R/W	1024	35	869-42	1221	2090
TAFT	411	В	R/0	1024	30	2911-35	5449	8360
ACSLIB	191	P	R/O	1024	160	4172-50	4188	8360
UPL370	500	R	R/0	1024	316	6232-85	1083	7315
CMS190	190	S	R/O	4096	281	3033-95	159	3192
CMS19E	19E	Y/S	R/O	2048	285	6893~76	2227	9120

10:15:01>\_\_\_\_

# Summary:

The system displayed information about the user's ECONPACK permanent disk files.



#### CMS/TIME-OF-DAY COMMAND

#### RENAME

FORMAT: <u>REN</u>AME (fn1) (ft1) (fm) (fn2) (ft2) (fm)

PARAMETERS: fn1 ft1: The filename and filetype of an

existing ECONPACK permanent disk file.

fn2 ft2: The filename and filetype to replace

the existing name and filetype of an

ECONPACK permanent disk file.

fm: File mode.

NOTES: The contents of the specified file are not

affected by this command.

**FUNCTION:** The system changes the filename and filetype

> of an existing file on the ECONPACK permanent disk to the specified new filename and file-

type.

#### EXAMPLE:

Command issued: 10:10:10>RENAME COST MEMO A COSTHIGH

MEMO A <CR>

Computer's response: 10:10:12>\_\_\_\_\_

Summary: The system changed the title of the file,

COST MEMO, to COSTHIGH MEMO and prompted

the user for another Time-of-Day command.

# CMS/TIME-OF-DAY COMMAND

SET

FORMAT: SET MSG (setting)

PARAMETERS: MSG: Refers to the printing of a message at the

user's terminal as the result of the MSG

command.

setting: OFF

ON

**VARIATION A:** SET MSG OFF

FUNCTION: The system prevents messages sent as a result of

the MSG command from being printed at the user's terminal. The system notifies the sender that

the receiver is not receiving messages.

**EXAMPLE:** 

Command issued: 10:10:10>SET MSG OFF <CR>

Computer's response: 10:10:12>\_\_\_\_\_

Summary: The system will prevent any messages

from printing at the user's terminal and will notify the user sending a MSG that the user is not receiving messages. MSG will be set off until the command, SET

MSG ON, is issued.

VARIATION B: SET MSG ON

<u>FUNCTION:</u> The system prints messages sent as a result of

the MSG command. The system automatically sets MSG ON when the user logs on to the computer. The only time the user needs to enter this

command is to cancel the effects of a previously

entered SET MSG OFF command.

	<del></del>
SET	(Continued)



# **EXAMPLE:**

Command issued: 10:10:10><u>SET MSG ON <CR></u>

Computer's response: 10:10:12>

The system cancelled the effect of the SET MSG OFF command. Summary:

#### CMS/TIME-OF-DAY COMMAND

SLEEP

FORMAT:

SLEEP

PARAMETERS:

None.

NOTES:

The user cannot enter commands while the SLEEP

command is in effect.

**FUNCTION:** 

The system allows messages sent by the command, MSG, to be printed at the user's terminal as soon as they are sent; the user does not need

as soon as they are sent; the user does not need to enter a CARRIAGE RETURN to receive the message(s). SLEEP remains in effect until the user terminates it. To do this, the user must depress either the ESCAPE key or the ALT MODE key twice. Connect time of two dollars per hour

(\$2.00) is charged while the terminal is in the

SLEEP mode.

EXAMPLE:

Command issued:

10:10:10><u>SLEEP <CR></u>

Computer's response:

Summary:

The system is "set" to print a MSG as soon as it is sent. To return to the Time-of-Day>, the user should depress

the ESCAPE key twice.

#### CMS/TIME-OF-DAY COMMAND

.

TYPE

FORMAT: TYPE (fn) (ft)

PARAMETERS: fn: The filename of an existing file on the

ECONPACK permanent disk.

ft: The filetype of an existing file on the

ECONPACK permanent disk.

FUNCTION: The system prints the contents of the specified

file and prompts for another command.

**EXAMPLE:** 

Command issued: 10:10:10>TYPE COST MEMO <CR>

Computer's response: THE COST ESTIMATE FOR THE PRIMARY

FACILITY APPEARS TOO HIGH. SEND

ADDITIONAL INFORMATION.

10:12:01>\_\_\_\_

Summary: The system printed the contents of the

file, COST MEMO, and prompted for

another Time-of-Day command.

4.4 Monitor Ready Commands: Monitor ready commands are used within the DD Form 1391 Processor System to prepare, modify, or monitor DD1391 Forms. The following pages present a display of a monitor ready commands, a Quick Reference Guide to monitor ready commands encountered by ECONPACK users, and detailed descriptions of these commands.

#### Figure 4.2. Presentation of a Monitor Ready Command

3. AVAILABLE TO: INSTALLATION

#### 1 MONITOR READY COMMAND

2. SR1

4. AUTHORITY: S, R, V, OR W\*

5. FORMAT: SR1 FORM formno

6. PARAMTERS: formno: Form identification number assigned by the DD Form 1391 Processor System.

7. NOTES: Districts/Divisions and MACOMs/MASCOMs are allowed to use this command on forms they have prepared and have not yet transferred to an Installation.

FUNCTION: This command will load an Economic Analysis report from the monitor ready prompt.

Note: The report must have been generated from

ECONPACK.

EXAMPLE:

Command issued: MONITOR READY>SR1 FORM XXXXX <CR>

Computer's response: PLEASE ENTER FILENAME OF ECONOMIC

ANALYSIS TO BE ENTERED. (NOTE: AN

ECONOMIC ANALYSIS REPORT MUST HAVE BEEN

GENERATED FROM THE ECONPACK PROGRAM.)

ENTER FILENAME OR <CR>
TO RETURN TO THE

MONITOR READY PROMPT.>TEST5 <CR>

YOUR ECONOMIC ANALYSIS WILL BE ENTERED INTO BLOCK SR1. DO YOU WISH TO CONTINUE

 $(YES/NO)?>\underline{Y}<CR>$ 

PLEASE WAIT - THANK YOU

NOW PROCESSING YOUR INSTRUCTION...

NOW PROCESSING YOUR INSTRUCTION...

YOUR ECONOMIC ANALYSIS REPORT FILE HAS BEEN INSERTED INTO SR1 OF FORM XXXXX.

Each section is described below:

- (1) MONITOR READY identifies the name of the command category.
- (2) \_\_\_\_\_ contains the name of the command.
- (3) AVAILABLE TO All users do not have access to all monitor ready commands. The system will execute the command only for the users identified in this section.
- (4) <u>AUTHORITY</u> In addition to having access to a specific command, the user must have the appropriate authority over the specific form. This section lists the authority a user must have over the form before the system will execute the commands.

The seven authority levels are:

- S (SUBMIT Only OCE and MACOM/MASCOM)
- W (WRITE Only INSTALLATION)
- P (PERMIT ALL)
- R (READ Only MACOM/MASCOM and INSTALLATION)
- V (REVIEW Only OCE and MACOM/MASCOM)
- Y (RESULT Of RMP command Only MACOM/MASCOM)
- Z (RESULT Of RWP command Only INSTALLATION and DA Program Manager)

ALL indicates all users with any level of authority over the form may issue the command.

- (5) FORMAT specifies the format in which the command must be entered. The following symbols are used to describe the format:
  - <u>UPPERCASE LETTERS</u> indicate the exact word or its abbreviation must be entered.
  - <u>CHARACTERS UNDERLINED</u> indicate the minimum abbreviation accepted.
  - LOWERCASE LETTERS indicates parameters entered in the command format as described in Section (6) PARAMETERS/



Note: Uppercase and lowercase letters are used for illustrative purposes only. Commands can be entered in either uppercase or lowercase letters.

- PARENTHESES are used to indicate optional parameters. They are for illustrative purposes only and should not be typed when optional parameters are specified.
- (6) <u>PARAMETERS</u> specify the kind of additional information the user may have to include as part of the command format.
- (7) <u>NOTES</u> provide the user with additional information.
- (8) <u>VARIATIONS</u> Each variation of a command is described in detail. This section specifies the specific format of the VARIATION (8), describes the function (8a), and provides an example (8b). In the example, underlining indicated data to be entered by the user. A <<u>CR</u>> indicates the user must depress the CARRIAGE RETURN key.



# QUICK REFERENCE GUIDE MONITOR READY COMMANDS



	COMMAND	FUNCTION	AVAILABLE TO	PAGE	
1.	<u>DIR</u> ECTORY	Prints a director of forms to which the user has access. If keywords are entered, the system lists only those forms which match the specified values.	ALL	4-45	
2.	DIR/F	Prints a more detailed directory than the DIR command does of forms to which the user has access.	ALL	4-53	
3.	DIR/W	Prints a directory of forms to which the user has access. The printout identifies all activities with access to specific forms and indicates the corresponding authority level the activities have to the listed forms.	ALL	4-61	,
4.	DISPLAY	Prints the contents of the working copy of the specified DD1391 Form.	ALL	4-62	
5.	EDIR	Prints a directory of projects which contain Economic Analyses Reports in the system for which the user has access.	ALL	4-69	
6.	QUIT	Causes the system to exit the DD Form 1391 Processor and return to the Time-of- Day prompt.	ALL	4-69	
7.	SRI	Loads an ECONPACK report file from the monitor ready prompt.	INSTALLATION	4-70	





# AVAILABLE TO:

#### A.

# MONITOR READY COMMAND

DIRECTORY

AUTHORITY: N/A

FORMAT: DIRECTORY (keyword value) (keyword value) (keyword value)

PARAMETERS: keyword: value:

CATCODE 3 or 5 DIGIT CATEGORY CODE

COMMENT Comments made by a user.

FORM Form identification number assigned

by the DD Form 1391 Processor.

INSTALLATION 'INSTALLATION'S NAME' -- The

installation's name must be

enclosed in single quotation marks

(') if more than one word.

LOCATION Installation's location -- Specify

only the state or the country.

Cities are not accepted.

PROGRAM TYPE -- One of the

following program types must be specified: MCA, PBS, NAF, AFH,

M&R, COMM or AAFES

PROJECT 3 or 5 DIGIT CATEGORY CODE

PROJNO or PN Permanent project number assigned

by the DA Program Manager.

RANK DESIGNATOR:

OP Program Manager Priority

CP Major Command's Priority

SP Major Subordinate Command's

Priority

IP Installation's Priority



SINCE

DATE (mm/dd/yy) -- each section must contain two digits.

California de la calenta de la California de California de California de La California de California

YEAR

2 or 4 DIGIT FISCAL YEAR

NOTES:

The user can specify one of the following activity 1. keywords and get a listing of the forms in his/her directory to which the specified activity has read or write access.

Keyword Value

PMProgram Manager

MACOM Major Command

Major Subordinate Command MASCOM

DIV Division

DIST District

2. The following information is displayed for each form:

Α. FY Fiscal year

В. CATCODE Category code

C. PROJECT Project title in accordance

DESCRIPTION with AR 415-28.

D. PROJNO Permanent project number

assigned by the DA Program

Manager.

Ε. TEMPNO Temporary project number

assigned by the preparer.

F. STATUS Name of activity with the

authority to modify the form.

CHGDATE G. Date the form was last

modified.

Η. User's current authority over Α

the form.

I. FORWARD

Form identification number assigned by the DD Form 1391 Processor. An F, E, or T may be printed next to the form number.

- An "F" next to the form number indicates Blocks 1-11 are frozen and cannot be accessed or modified.
- 2. An "E" next to the form number indicates the DA Cost Reviewers (DAEN-ECE-S) have frozen Blocks 2.B, 2.C, and 9. The user cannot access or change these blocks.
- 3. A "T" next to a form number indicates both the Program Manager (or MACOM/MASCOM) and the DA Cost Reviewers (DAEN-ECE-S) have issued the FREEZE command.
- 3. Users can enter a maximum of three keywords and their corresponding values. Only keywords RANK and PROJECT cannot be issued together.
- 4. The function of each command variation is explained. A system example is not given for each Directory format variation. To see an example of the directory displayed as a result of the command issued, the user is encouraged to simply enter the desired command variation at the MONITOR READY prompt. All directories will be in the same format as the one presented in VARIATION A. The information provided will be limited dependent upon the command issued.



#### VARIATION A: DIRECTORY

<u>FUNCTION:</u> The system prints a list of all forms to which the user has access.

#### **EXAMPLE:**

Command issued: MONITOR READY>DIRECTORY <CR>

#### Computer's response:

DIRECTORY

# FY CATCODE PROJECT DESCRIPTION PROJNO TEMPNO STATUS CHGDATE A FORMNO

	FORT	HUNTSVILLE	A	LABAMA					galiNiz. ● Magazi
84 84 85 86 87 88	74062 74068 74060 17150 51010 74068 88010	SNACK BAR RECREATION LUNCH ROOM BATTALION HOSPITAL RECREATION FIRE ALARM	CLASSROOMS	00415 00390	T306	MACOM INST INST OCE INST INST INST	02/18/83 03/08/83 04/07/85 02/03/85 04/15/85 03/11/85	W W R W	3299 4110E 4150 2999 5000 3001F 2893T
88	FORT 74055	EUROPE	WAREHOUSE	00030	GERMANY	OCE	02/29/85		2089

#### SUMMARY:

END OF DIRECTORY..

The system listed all forms to which the user had access. Each form was listed under the name of the installation for which it was prepared. The "E" next to form number 4110 indicated Blocks 2.B, 2.C, and 9 were frozen by Cost Reviewers (DAEN-ECE-S). The "F" next to form number 3001 indicated Blocks 1-11 were frozen for the Program Manager The "T" next to form number 2893 indicated Blocks 1-11 were frozen by both the Cost Reviewers and the Program Manager. [See page 4-47.]



# VARIATION B: DIRECTORY CATCODE category code

FUNCTION: The system prints a list of all forms to which the user has access that contain the specified category code.

Command example: MONITOR READY>DIRECTORY CATCODE 74068 <CR>

# <u>VARIATION C:</u> <u>DIRECTORY COMMENT SINCE mm/dd/yy</u>

FUNCTION: The system prints a list of all forms to which comments have been made or revised since the specified date.

<u>Command example:</u> MONITOR READY><u>DIRECTORY COMMENT SINCE</u>

03/25/83 <CR>

# <u>VARIATION D:</u> <u>DIRECTORY FORM formno</u>

FUNCTION: The system prints a directory listing of the specified form to which the user has access.

Command example: MONITOR READY>DIRECTORY FORM\_3299 <CR>

<u>VARIATION E:</u> <u>DIRECTORY INSTALLATION 'installation's name'</u>

FUNCTION: The system prints a list of forms to which the user has access that were prepared for the specified installation.

#### Command example:

MONITOR READY><u>DIRECTORY INSTALLATION 'FORT EUROPE' <CR></u>





# VARIATION F: DIRECTORY LOCATION location

FUNCTION: The system prints a list of all forms to which the user has access which were prepared for the specified location.

Note: Only a state or country other than the U.S. may be entered. The system will not accept the names of cities.

Command example: MONITOR READY>DIRECTORY LOCATION ALABAMA <CR>

<u>VARIATION G:</u> <u>DIRECTORY PROGRAM program type (YEAR XX)</u> (INST 'installations name')

FUNCTION: The system prints a directory of the forms which contain the specified program type. The directory listing can be limited to forms for a certain year and/or activity if the year and/or activity is specified.

Command example: MONITOR READY>DIRECTORY PROGRAM MCA
YEAR 88 <CR>

VARIATION H: DIRECTORY PROJECT category code

FUNCTION: The system prints a list of all forms on the system which contain the specified category code.

Command example: MONITOR READY>DIRECTORY PROJECT 74068 < CR>

<u>VARIATION I:</u> <u>DIRECTORY PROJNO (OR PN)</u> projno

FUNCTION: The system prints a directory listing of the form to which the user has access that contains the specified permanent project number.

Command example: MONITOR READY>DIRECTORY PN\_00390 <CR>



# <u>VARIATION J:</u> <u>DIRECTORY RANK rank designator</u>

FUNCTION: The system prints a DIR/F listing of all forms to which the user has access that have been assigned a priority rank code by the activity level indicated by the rank designator. These forms are sequenced according to the priority rank code.

> The keyword, CODE, may also be used with the DIR RANK command to cause the system to print a directory listing of the forms which have been ranked with the specified priority code. In the command format, the keyword, RANK, must precede the word, CODE. The keyword, CODE, may be used with other keywords such as CATCODE, INSTALLATION, LOCATION, etc.

#### SAMPLE FORMAT: MONITOR READY>DIR RANK XX CODE 16\$\$\$\$ <CR>

XX can be either rank designator OP, CP, SP, or IP.

\$ may be used with the code as a substitute for any other character

#### EXAMPLES OF FORMATS:

DIR RANK OP CODE 16AR6 DIR RANK CP CODE Z100 DIR RANK SP CODE MOSS YEAR 1987

DIR RANK IP CODE M1\$\$

MONITOR READY>DIRECTORY RANK IP <CR> Command example:

VARIATION K: DIRECTORY SINCE mm/dd/yy

FUNCTION: The system prints a directory of forms to which the user has access that contain action dates greater than or equal to the specified date.

Command example: MONITOR READY>DIRECTORY SINCE 04/01/83 <CR>





# <u>VARIATION L:</u> <u>DIRECTORY YEAR fiscal year</u>

FUNCTION: The system prints a list of forms to which the user has access that were prepared for the specified fiscal year.

Command example: MONITOR READY>DIRECTORY YEAR 84 <CR>

<u>VARIATION M:</u> <u>DIRECTORY</u> (keyword value) (keyword value)

FUNCTION: The system prints a list of forms to which the user has access that match the values of the specified keywords. A maximum of 3 keywords and their corresponding values can be entered.

<u>Command example:</u> MONITOR READY><u>DIRECTORY CATECODE 74068</u>
<u>YEAR 88 < CR></u>



#### AVAILABLE TO

ALL

#### MONITOR READY COMMAND

DIR/F

AUTHORITY: N/A

FORMAT: DIRECTORY/F (keyword value) (keyword value) (keyword

value)

<u>PARAMTERS:</u> <u>keyword:</u> <u>value:</u>

CATCODE 3 or 5 DIGIT CATEGORY CODE

COMMENT Comments made by a user.

FORM Form identification number assigned

by the DD Form 1391 Processor.

INSTALLATION 'INSTALLATION'S NAME' -- The

installation's name must be enclosed

in single quotation marks (') if

more than one word.

<u>L</u>OCATION Installation's location -- Specify

only the state or the country.

Cities are not accepted.

PROGRAM TYPE -- One of the following

program types must be specified: MCA, PBS, NAF, AFH, M&R, COMM, or

**AAFES** 

PROJECT 3 or 5 DIGIT CATEGORY CODE

PROJNO or PN Permanent project number assigned by

the DA Program Manager.

RANK DESIGNATOR:

OP Program Manager Priority

CP Major Command's Priority

SP Major Subordinate Command's

Priority

IP Installation's Priority



 $\underline{S}$ INCE DATE (mm/dd/yy)--each section

must contain two digits.

YEAR 2 or 4 DIGIT FISCAL YEAR

NOTES:

1. The user can specify one of the following activity keywords and get a listing of the forms in his/her directory to which the specified activity has read or write access.

<u>Keyword</u> <u>Value</u>

PM Program Manager

MACOM Major Command

MASCOM Major Subordinate Command

DIV Division

DIST District

2. The following information is displayed for each form:

Note: A-I are displayed by the DIRECTORY command. (J-S are unique to the DIR/F command.)

A. FY Fiscal year

B. CATCODE Category code

C. PROJECT Project title in accordance

DESCRIPTION with AR 415-28.

D. PROJNO Permanent project number

assigned by the DA Program

Manager.

E. TEMPNO Temporary project number

assigned by the preparer.

F. STATUS Name of activity with the

authority to modify the form.

G. CHGDATE Date the form was last

н. User's current authority over Α the form. I. Form identification number FORWARD assigned by the DD Form 1391 Processor. An F, E, or T may be printed next to the form number. An "F" next to the form number indicates Blocks 1-11 are frozen and cannot be accessed or modified. 2. An "E" next to the form number indicates the DA Cost Reviewers (DAEN-ECE-S) have frozen Blocks 2.B, 2.C, and 9. The user cannot access or change these blocks. 3. A "T" next to a form number indicates both the Program Manager (or MACOM/MASCOM) and the DA Cost Reviewers (DAEN-ECE-S) have issued the FREEZE command. J. O PRI Program Manager's priority rank code. K. C PRI Major Command's priority rank code. L. S PRI Major Subordinate Command's priority rank code.

code.

Installation's pric ity rank

Μ.

I PRI

- N. TC Type of Construction--Permanent (P), Semi-permanent (S), Temporary (T).
- O. WORK Type of work (New, Addition, Alteration, etc.).
- P. UM Unit of Measure.

- Q. SCOPE Total Unit of Measure.
- R. CWE (000) Current Working Estimate.
- S. INSTALLATION Installation's name for which the form was prepared.
- 3. The DIR/F command provides users with the choice of printing the directory in two widths, 80 characters per line or 132 characters per line. If the 132-characters-width is selected, the information for each project will be formatted on one line. If the 80 characters width is selected, the information will be printed on two lines.
- 4. Users enter a maximum of three keywords and their corresponding values. Only the keywords RANK and PROJECT cannot be issued together.
- A system example is not given for each DIR/F format variation. To see an example of the directory displayed as a result of the command issued, the user is encouraged to simply enter the desired command variation at the MONITOR READY Prompt. All directories will be in the same format as presented in VARIATION A. The information provided will be limited dependent upon the command issued.

# VARIATION A: DIR/F

FUNCTION: The system prints a list of all forms to which the user

has access.

EXAMPLE:

Command issued: MONITOR READY>DIR/F <CR>

Computer's response:

\*\*\*DO YOU WANT TO SET UP PRINTER FOR 132 CHARACTERS Y/N>N <CR>

03/25/86 \*\*\* FOR OFFICIAL USE ONLY \*\*\*

DIR/F

PAGE 1

FY CATCODE PROJECT DESCRIPTION PROJNO TEMPNO STATUS CHGDATE A FORMNO

O PRI C PRI C PRI S PRI I PRI TC WORK UM SCOPE CWE(000)

FORT EUROPE GERMANY

- 84 72111 ENLISTED BARRACKS W/O DINING 36 T309 INST 03/20/83 W 3290E A001 P NEW PN 196058 205
- 84 72110 ENLISTED BARRACKS W/DINING 108 T480 INST 01/26/83 W 2084 A004 P NEW PN 20000 104

FORT HUNTSVILLE ALABAMA

- 85 72111 ENLISTED BARRACKS W/O DINING 45 T123 MACOM 02/17/83 R 2923F A006 P NEW PN 10000 744
- 86 74068 RECREATION CENTER 133 T1234 OCE 12/04/82 R 1970 A002 P NEW SF 35000 28000
- 87 22690 BINARY MUNITIONS FACILITY 85 T856 INST 02/02/83 W 1706T A005 P NEW SF 23418 4069
- A005 P NEW SF 23418 4069
  88 51010 HOSPITAL 199 T3995 INST 03/12/83 P 1861
  A003 P NEW B0 5000 10607

END OF DIRECTORY..



**SUMMARY:** 

The system listed all forms to which the user has access. Each form was listed under the name of the installation for which it was prepared. The "E" next to form number 4110 indicated Blocks 2.B, 2.C, and 8 and 9 were frozen by DA Cost Reviewers (DAEN-ECE-S). The "F" next to form number 2923 indicated Blocks 1-11 were frozen. The "T" next to form number 1706 indicated the FREEZE command was issued by the Program Manager (or the MACOM/MASCOM) and DAEN-ECE-S.

<u>VARIATION B:</u> <u>DIR/F</u> <u>CATCODE</u> category code

FUNCTION: The system prints a list of forms to which the user has access that were prepared for the specified category code.

Command example: MONITOR READY>DIR/F CATCODE 72111 <CR>

VARIATION C: DIR/F COMMENT SINCE mm/dd/yy

<u>FUNCTION:</u> The system prints a directory of forms on which comments have been made or revised since the specified date.

Command example: MONITOR READY>DIR/F COMMENT SINCE 03/25/83 <CR>

VARIATION D: DIR/F FORM formno

FUNCTION: The system prints a DIR/F listing of the specified form to which the user has access.

Command example: MONITOR READY>DIR/F FORM <CR>



#### <u>VARIATION E:</u> <u>DIR/F</u> <u>INSTALLATION 'installation name'</u>

<u>FUNCTION:</u> The system prints a list of forms to which the user has access that were prepared for the specified installation.

#### Command example:

MONITOR READY>DIRECTORY/F INSTALLATION 'FORT HUNTSVILLE' <CR>

VARIATION F: DIR/F LOCATION location

FUNCTION: The system prints a list of all forms to which the user has access which were prepared for the specified location.

Note: Only a state or country other than the U.S. may be entered. The system will not accept the names of cities.

Command example: MONITOR READY>DIR/F LOCATION ALABAMA <CR>

<u>VARIATION G:</u> <u>DIRECTORY/F PROGRAM program type (YEAR XX)</u> (INST 'installation's name')

FUNCTION: The system prints a directory of the forms which contain the specified program type. The directory listing can be limited to forms for a certain year and/or activity if the year and/or activity is specified.

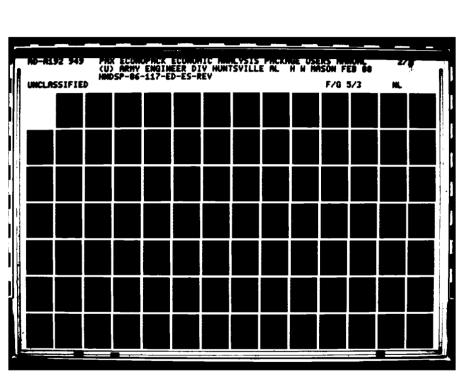
<u>Command example:</u> MONITOR READY><u>DIRECTORY PROGRAM MCAYEAR 87 < CR></u>

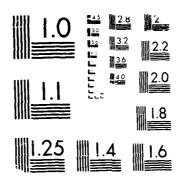
<u>VARIATION H:</u> <u>DIR/F</u> <u>PROJECT</u> category code

<u>FUNCTION:</u> The system prints a list of all forms on the system which contain the specified category code.

Command example: MONITOR READY>DIRECTORY PROJECT 74068 < CR>







MICROCOPY RESOLUTION TEST CHART

INDESDE TANDESDE TAIL



# <u>VARIATION I:</u> <u>DIRECTORY/F PROJNO (OR PN)</u> projno

FUNCTION: The system prints a directory listing of the form to which the user has access that contains the specified permanent project number.

Command example: MONITOR READY>DIR/F PN 133 <CR>

# <u>VARIATION J:</u> <u>DIR/F</u> <u>RANK</u> rank designator

FUNCTION: The system prints a DIR/F listing of all forms to which the user has access that have been assigned a priority rank code by the activity level indicated by the rank designator. These forms are sequenced according to the priority rank code.

NOTE: The keyword, CODE, may also be used with the DIR RANK command to cause the system to print a directory listing of the forms which have been ranked with the specified priority code. In the command format, the keyword, RANK, must precede the word, CODE. The keyword, CODE, may be used with other keywords such as CATCODE, INSTALLATION, LOCATION, etc.

#### SAMPLE FORMAT: MONITOR READY>DIR/F RANK XX CODE 16\$\$\$\$ < CR>

XX can be either rank designator OP, CP, SP, or IP.

\$ may be used with the code as a substitute for any other character.

#### EXAMPLES OF FORMATS:

DIR/F RANK OP CODE 16AR6 DIR/F RANK CP CODE Z100

DIR/F RANK SP CODE MO88 YEAR 1987

DIR/F RANK IP CODE M1\$\$

Command example: MONITOR READY>DIR/F RANK IP <CR>

VARIATION K: DIR/F SINCE mm/dd/yy

FUNCTION: The system prints a directory of forms to which the user has access that contain action dates greater than or equal to the specified date.

Command example: MONITOR READY>DIR/F SINCE 03/01/83 <CR>

<u>VARIATION L:</u> <u>DIR/F</u> <u>YEAR</u> fiscal year

FUNCTION: The system prints a list of forms to which the user has access that were prepared for the specified fiscal year.

Command example: MONITOR READY>DIR/F YEAR 86 <CR>

The monitor ready command, DIP/W, allows users to see which activities have access to the forms in their directory and their corresponding authority levels. All variations of the monitor ready command, DIRECTORY, are applicable at this command. [See pages 4-45 through 4-52.]



#### AVAILABLE TO:

ALL

#### MONITOR READY COMMAND

DISPLAY

AUTHORITY: N/A

FORMAT: DISPLAY FORM formno (keyword) (nblock)

<u>PARAMTERS:</u> <u>formno:</u> Form identification number assigned

by DD Form 1391 Processor.

keyword <u>COMMENTS:</u> Comments entered by a

user.

**HISTORY:** Record of all changes to

the form after it has been

submitted.

REMARKS: Remarks entered by a user

prior to 12/21/82. (The command which allowed users to enter remarks was removed from the system on

12/21/82.)

nblock:

Block number(s) of contents to be displayed. Specific blocks must be separated by one blank space. Block ranges are indicated by two block numbers separated by a hyphen.

# Specific block numbers

1 - 11.Q Blocks

SA - SF Supplemental Data

D1 - D18 Justification Paragraphs

SR1 - SR10 Special Requirements

Paragraphs

NOTES: 1. The form must be listed in the user's directory.

2. Only one keyword may be specified.

The user cannot modify any block when displaying the form.

#### DISPLAY (Continued)

- 4. All display printouts contain a heading that specifies the form number, the installation's name and location, the fiscal year, permanent project number, the dates entered at Block 2.A, the midpoint of construction date, and the Base Cost Index. If the display is of a form prepared for a foreign location, the foreign currency exchange rate used in the cost estimates is also displayed.
- 5. This command is very similar to the form editor command, /DISPLAY. However, there is one major difference. The monitor ready command, DISPLAY, prints the contents of the permanent copy of the specified form, whereas the form editor command, /DISPLAY, prints the contents of the working copy.

#### VARIATION A: DISPLAY FORM formno

FUNCTION: The system displays the content of the specified form. It begins with Block 1 and ends with SR10 (Special Requirements Paragraph 10).

#### EXAMPLE:

Command issued: MONITOR READY>DISPLAY FORM 7213 <CR>

ASSUMED MIDPOINT OF CONSTRUCTION = 10/1985

#### Computer's response:

FORT EUROPE GERMANY FY = 1985 PROJNO = C26500 2.A DATE=18 JAN 83

FOREIGN CURRENCY EXCHANGE RATE: 2 MARK PER US \$

COST INDEX = 1533

- 1. COMPONENT = ARMY
- 2.A DATE = 30 NOV 81
- 2.B FISCAL YEAR = 1986
- 2.C ESTIMATED START DATE: 5/1986 COST INDEX: 1560

ESTIMATED END DATA: 5/1937

MIDPOINT OF CONSTRUCTION: 11/1986

COST INDEX: 1606



#### DISPLAY (Continued)



- 3.A INSTALLATION = FORT DRUM SUBPOST OR REMOTE LOCATION =
- 3.B LOCATION = NEW YORK
- 4.A PROJECT TITLE = BATTALION HO AND CLASSROOM

(The system will continue to display the entire form.)

MONITOR READY>

Summary:

Although this example does not show the entire form, the system would display all information entered for Form 7213, beginning with Block 1 and ending with SR10. (Notice this example displays the foreign currency exchange rate.)

VARIATION B: DISPLAY FORM formno nblock

FUNCTION 1: The system displays the contents of the specified block(s) on the specified form.

Notes: If the user specifies only a number, the system will display all blocks which begin with that number. For example, the command, DISPLAY FORM XXXX 9, displays Blocks 9.A - 9.E.

More than one block may be entered if separated by a blank space. For example, the command, DISPLAY FORM XXXX 6 8, will display Block 6 and Block 8.

#### **EXAMPLE:**

Command issued: MONITOR READY>DISPLAY FORM 7213 6 8 <CR>

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* DD 1391 PROCESSOR (03/10/86) \*\*\*\*\*\*\*\*\*\*\*\*\*

\*\* FOR OFFICIAL USE ONLY \*\* FORM 7213

FORT HUNTSVILLE Alabama FY = 1985 PROJNO = C26500

2.A DATE = 18 JAN 83

ASSUMED MIDPOINT OF CONSTRUCTION = 10/1985 COST INDEX = 1533

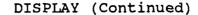
- 6. CATEGORY CODE NUMBER = 171 51
- 8. PROJECT COST = \$4,384,000

PREPARED BY = (PREPARER'S NAME) , (OFFICE) , (PHONE)

REVISED BY = (REVIEWER'S NAME) , (OFFICE) , (PHONE)

Summary: The system displayed Blocks 6 and 8 of Form 7213.





FUNCTION 2: This system displays the contents of the range of blocks indicated on the specified form.

> Note: The user must enter a hypen between the numbers.

#### EXAMPLE:

Command issued: MONITOR READY>DISPLAY FORM 7213 1-3 <CR>

#### Computer's response:

\*\*\*\*\*\*\*\*\*\*\*\*\* DD 1391 PROCESSOR (03/10/86) \*\*\*\*\*\*\*\*\*\*\* FOR OFFICIAL USE ONLY \*\* FORM 7213

FORT HUNTSVILLE FY= 1985 Alabama PROJNO = C26500

DATE = 18 JAN 83ASSUMED MIDPOINT OF CONSTRUCTION = 10/1985 COST INDEX 8 5 COST INDEX = 1533

- 1. COMPONENT = ARMY
- 2.A DATE = 30 NOV 81
- 2.B FISCAL YEAR = 1986
- 2.C ESTIMATED START DATE: 5/1986

COST INDEX: 1560

ESTIMATED END DATE:

COST INDEX: 1629

MIDPOINT OF CONSTRUCTION: 11/1986

COST INDEX: 1606

3.A INSTALLATION = FORM DRUM SUBPOST OR REMOTE LOCATION =

3.B LOCATION = New York

PREPARED BY = (PREPARER'S NAME),(OFFICE) , (PHONE) REVISED BY = (REVIEWER'S NAME) , (OFFICE)

The system displayed the contents of Blocks 1-3 of Summary:

Form 7213.

#### <u>VARIATION C:</u> <u>DISPLAY FORM formno COMMENT</u> (SINCE mm/dd/yy)

FUNCTION: The system displays all comments written for the specified form and indicates the activity response for each comment entered. If the parameters SINCE and a date are included in the command, the system only prints the comments made or revised on and/or after the date specified.



#### DISPLAY (Continued)

# **EXAMPLE:**

Command issued: MONITOR READY>DISPLAY FORM XXXX COMMENT <CR>
Computer's response:

\*

\*\* FOR OFFICIAL USE ONLY \*\* FORM 7213

FORT HUNTSVILLE Alabama FY = 1985 PROJNO = C26500

2.A DATE = 18 JAN 83

ASSUMED MIDPOINT OF CONSTRUCTION = 10/1985 COST INDEX = 1533

\*\*\*\*\*\* REVIEW COMMENTS FOR FORM 7213

#### FIELD NUMBER 1

REVIEW AGENCY (Name of MACOM) DATE 02/25/83
THIS IS A TEST OF THE COMMENT FEATURE.
COMMENTS ARE NOT A PART OF THE CONTENT OF THE FORM.

#### FIELD NUMBER 9.A

REVIEW AGENCY (Name of installation.) DATE 02/14/83 COMMENTS MAY BE MADE BY ALL USERS WITH ACCESS TO THE FORM.

Summary: The system displayed all comments written for the form and identified the activity responsible for the comments entered.

#### <u>VARIATION D:</u> <u>DISPLAY FORM formno REMARK</u>

FUNCTION: The system displays all remarks entered by a user prior to 12/21/82.



# DISPLAY (Continued)

#### EXAMPLE:

Command issued: MONITOR READY>DISPLAY FORM 7213 REMARKS <CR>

Computer's response: Same as VARIATION C except remarks are

displayed instead of comments.

<u>Summary:</u> The system displayed all remarks entered by

a user prior to 12/21/82.

VARIATION E: DISPLAY FORM formno HISTORY (SINCE mm/dd/yy)

FUNCTION: The system displays a record of all changes made to

the form after the authority to modify it is submitted by the installation. The display includes the date, the activity responsible, and the change. If SINCE with a date is included, the system displays

the history of changes on or after the date

specified.

# EXAMPLE:

Command issued: MONITOR READY>DISPLAY FORM 7213 HISTORY <CR>

Computer's response:

\*\* FOR OFFICIAL USE ONLY \*\* FORM 7213

FORT HUNTSVILLE Alabama FY = 1985 PROJNO = C26500

2.A DATE = 18 JAN 83

ASSUMED MIDPOINT OF CONSTRUCTION = 10/1985 COST INDEX = 1533

\*\*\* HISTORY OF FIELD NUMBER 6

. 11/30/81 (Name of MACOM)

17151

02/12/82 OCE

171 50

PREPARED BY = (PREPARER'S NAME) , (OFFICE) , (PHONE)
REVISED BY = (REVIEWER'S NAME) , (OFFICE) , (PHONE)

\*\*\*\*\*\*



### DISPLAY (Continued)

Summary: The system displayed a record of all changes made to the form after the authority to modify it was submitted by the installation.

<u>VARIATION F:</u> <u>DISPLAY FORM formno COMMENT</u> nblock

FUNCTION: The system displays all comments entered at the specified blocks on the form designated by the command.

#### **EXAMPLE:**

Command issued: MONITOR READY>DISPLAY FORM XXXXX COMMENT 1 <CR>
Computer's response:

\*

\*\* FOR OFFICIAL USE ONLY \*\* FORM 7213

FORT HUNTSVILLE Alabama FY = 1985 PROJNO = C26500

2.A DATE = 18 JAN 83

ASSUMED MIDPOINT OF CONSTRUCTION = 10/1985 COST INDEX = 1533

\*\*\*\*\*\* FOR FORM 1914

FIELD NUMBER 1

REVIEW AGENCY (Name of MACOM) DATE 02/25/83 THIS IS A TEST OF THE COMMENT FEATURE. COMMENTS ARE NOT A PART OF THE CONTENT OF THE FORM.

REVIEW AGENCY (Name of installation.) DATE 02/14/83 COMMENTS MAY BE MADE BY ALL USERS WITH ACCESS TO THE FORM.

Summary: The system displayed all comments entered at the specified blocks on the form indicated by the command.



The monitor ready command, EDIR, prints a directory of projects which contain Economic Analyses Reports in the system for which the user has access. This command uses the same keywords as the directory command, DIR. Users should consult pages 4-45 through 4-52 for further information.

The monitor ready command, QUIT, is used to terminate a session with the DD Form 1391 Processor. When the QUIT command is issued, the user is taken to a Time-of-Day prompt.



### AVAILABLE TO: INSTALLATION

#### MONITOR READY COMMAND

SR1

AUTHORITY: S, R, V, OR W\*

FORMAT: SR1 FORM formno

PARAMTERS: formno: Form identification number assigned by the

DD Form 1391 Processor System.

NOTES: Distric s/Divisions and MACOMs/MASCOMs are allowed to

use this command on forms they have prepared and have

not yet transferred to an Installation.

FUNCTION: This command will load an Economic Analysis report

from the monitor ready prompt.

Note: The report must have been generated from

ECONPACK.

**EXAMPLE:** 

Command issued: MONITOR READY>SR1 FORM XXXXXX <CR>

Computer's response: PLEASE ENTER FILENAME OF ECONOMIC

ANALYSIS TO BE ENTERED. (NOTE: AN ECONOMIC ANALYSIS REPORT MUST HAVE BEEN GENERATED FROM THE ECONPACK PROGRAM.) ENTER FILENAME OR <a href="mailto:creening-color: blue;">CR></a> TO RETURN TO THE

MONITOR READY PROMPT.>TEST5\_<CR>

YOUR ECONOMIC ANALYSIS WILL BE ENTERED INTO BLOCK SR1. DO YOU WISH TO CONTINUE

(YES/NO)?>Y< CR>

PLEASE WAIT - THANK YOU

NOW PROCESSING YOUR INSTRUCTION...

NOW PROCESSING YOUR INSTRUCTION...

YOUR ECONOMIC ANALYSIS REPORT FILE HAS BEEN INSERTED INTO SR1 OF FORM XXXXX.

SR1 (Continued)

YOUR ECONOMIC ANALYSIS INPUT FILE HAS BEEN STORED AS XXXXX ON THE ECONPACK COMMON DIRECTORY.

MONITOR READY>\_\_\_\_

Summary:

The system loaded an Economic Analysis file named TEST5 into the specified form, plus stored a copy of the file on the Common Directory. All this was done without the user having to recall the form.

- 4.5 General Commands: ECONPACK users encounter two types of general commands: the /HELP command and the /QUIT command.
  - /HELP: Users may enter /HELP <CR> or /H <CR> at any prompt in the prompting mode for a message from ECONPACK as to the appropriate response for that particular prompt.
  - 2. <u>/QUIT</u>: Users may enter <u>/QUIT <CR></u> or <u>/Q <CR></u> at any prompt in the prompting mode to terminate the routine. The system will prompt the user to indicate whether or not the input file is to be saved on the user's permanent disk.



## CHAPTER 5 MAIN ECONPACK MENU OPTIONS

#### 5.0 MAIN ECONPACK MENU OPTIONS

5.1 Introduction: The purpose of this chapter is to introduce users to the MAIN ECONPACK MENU options and to explain the ECONPACK features available at each option.

To access ECONPACK, simply enter the number corresponding to the ECONPACK option on the PAX System Menu or enter <a href="ECONPACK < CR">ECONPACK < CR</a> at the DD Form 1391 Processor System Time-of-Day prompt. The MAIN ECONPACK MENU displayed depends upon whether the user is a DD Form 1391 Processor System user or not, as illustrated.

MAIN ECONPACK MENU FOR DD FORM 1391 SYSTEM PROCESSOR USERS:

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

MAIN ECONPACK MENU FOR NON-DD FORM 1391 PROCESSOR SYSTEM USERS:

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

A discussion of each menu item is presented in the following sections. Options 1-7 are the same regardless of whether the ECONPACK user is a DD Form 1391 Processor System user or not. Option 8 (DD Form 1391 Processor System users), Option 8 (non-DD Form 1391 Processor System users), and Option 9 (non-DD Form 1391 Processor System users) are discussed separately.

5.2 MAIN ECONPACK MENU Option 1: Create an Input File: This option allows the user to create the data file for an EA. ECONPACK, by a prompting routine, will ask for all the needed data. Chapter 6 discusses this aspect of ECONPACK in more detail.



The user selects Option 1 to form blocks of information which are used to perform the EA. These blocks are named below and their explanations are presented on the following pages:



- 1. Initial Information Block
- 2. Discussion of Assumptions Text Block
- Discussion of Alternatives Text Block
- 4. Data Information Block

BASSAL PLANTAGE - SANSONE CONTRACTOR INDIVIDUAL PROPERTIES AND PLANTAGE - CONTRACTOR FOR SANSON PROPERTIES IN INCOME.

- 5. Alternative Information Block
- 6. Source/derivation of Costs and Benefits Text Block
- 7. Graphics Information Block
- 2. Sensitivity Analysis Information Block
- 9. Results and Recommendations Text Block



#### INITIAL INFORMATION BLOCK



	COMPONENT		EXPLANATION
1.	Input Filename	1.	Enter any combination of 1-8 letters, characters, and/or numbers.
2.	Project Title	2.	Enter a project title up to 48 characters long.
3.	Action Officer	3.	Enter the name, title, and phone number of the person to whom all questions about the analysis should be addressed. A maximum of 48 characters is allowed.
4.	Organization Title	4.	Enter the user's organization title. A maximum of 48 characters is allowed.
5.	Objective of The Analysis	5.	The objective is a clear, concise statement of why the project is being done. A maximum of 48 characters is allowed.





#### Discussion of Assumptions Text Block



The second block of the input file is the Discussion of Assumptions Text Block. This block allows the user to comment on all assumptions pertinent to the economic analysis, such as the functional life of an asset, the usefulness of a facility after the present objective is fulfilled, etc. The user may enter as much narrative as desired in this text block and all text blocks.

Users may use the text editor commands, discussed in Chapter 4, to enter narrative in this block and all text blocks.

The	system	will	type
NEW	FILE:		
E>			



#### Discussion of Alternatives Text Block

The third block of the input file is the Discussion of Alternatives Text Block. In this block, the analyst will identify all alternatives considered, explain why certain alternatives were rejected, and explain why particular alternatives were chosen to be part of the EA.

The system will type NEW FILE: E>\_\_\_\_

The fourth block of the input file is the Data Information Block. The components of this block, along with brief explanations of each, are displayed below.

#### DATA INFORMATION BLOCK

COMPONENT		EXPLANATION
1. Period of Analysis	1.	The period of analysis is the number of years over which the alternatives' costs are compared. The period of analysis may be a maximum of 60 years. Enter one or two digits.
2. Start Year of the Analysis	2.	The start year is the first year in which costs are incurred. Enter four digits (for example: 1988).
3. Base Year of the Analysis	3.	The base year is the year to which all costs will be discounted. Enter four digits. Enter a <cr> to default to the start year.</cr>
4. Discount Rate	4.	DoD policy requires a 10 percent discount rate for most military construction projects. To default to that rate, enter <cr>. If a rate other than 10 percent is desired, enter it as a percentage. (For example, 10 percent would be entered as 10.) [See the OCE Economic Briefs for more information on the discount rate.]</cr>

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## DATA INFORMATION BLOCK (Continued)



#### COMPONENT

#### **EXPLANATION**

- 5. Global Discounting Convention
- 5. The global discounting convention allows the user to set the overall discounting convention for all expense items in all alternatives. The user is allowed to override the global discounting convention for individual expense items later in the prompting sequence. Enter 1 <CR> for beginning-of-year, 2 <CR> for middle-of-year, or  $\frac{3 < CR>}{}$  for endof-year. Enter a <CR> to default to the middle-of-year discounting convention.
- 6. Differential
  Inflation Index(es)
  (optional). If yes,
  6.1 and 6.2 are
  required. If no,
  GOTO No. 7.
- 6. A differential inflation index allows the user to assign an inflation rate different from the inflation rate expected for the general economy. Enter Y <CR> or N <CR>.
- 6.1. Title(s) of Inflation Index(es)
- 6.1. Enter an identifying title.
  A maximum of 20 characters is allowed. The system allows a maximum of 10 inflation indexes.
- 6.2. Values for Inflation Index(es)
- 6.2. Enter inflation values as percentages. (For example, 1.1 percent would be entered as 1.1.) Negative values may be used if an inflation rate for an expense item is expected to be less than the inflation rate expected for the general economy. Enter an inflation value for each year in the period of analysis. The use of asterisks can abbreviate the input session. example 1 1 2.1 2.1 4 can be entered as 2\*1 2\*2.1 4. system allows for a maximum of 10 entries per line.



## DATA INFORMATION BLOCK (Continued)

|--|

	COMPONENT		EXPLANATION
7.	Residual Schedule(s) (optional). If yes, 7.1 and 7.2 are required. If no, GOTO No. 8.	7.	A residual schedule is a series of residual values, one for each year in the period of analysis. Enter Y < CR> or N < CR>.
7.1.	Title(s) of Residual Schedule(s)	7.1.	Enter an identifying title. A maximum of 20 characters is allowed. The system allows a maximum of 10 residual schedules.
7.2.	Residual Values	7.2.	Enter a residual value (in decimal form) for each year in the period of analysis. Asterisks can abbreviate the input. For example, .98 .98 .96 .92 can also be entered as 2*.98 2*.96 .92. The system allows for a maximum of 10 entries per line.
8.	Type of Analysis (primary or secondary)	8.	In a primary analysis, an alternative(s) is compared to an existing situation with the objective of saving money over a period of time. In a primary analysis, the status quo is the first alternative. In a secondary analysis, several alternatives are ranked from least cost to highest cost. The reason for doing a secondary analysis is that there is a new requirement. Enter P < CR> for a primary analysis or S < CR> for a secondary analysis.
9.	Alternative Cost Input Method	9.	Enter $\frac{1 < CR>}{2 < CR>}$ if \$1 = \$1. Enter $\frac{2 < CR>}{3 < CR>}$ if \$1 = \$1,000. Enter $\frac{3 < CR>}{3 < CR>}$ if \$1 = \$1,000,000.





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The fifth block of the input file is the Alternative Information Block. If the analyst is performing a primary analysis, the first alternative described should be the status quo alternative (present alternative) and subsequent alternatives should be proposed alternatives.

The components of the Alternative Information Block, along with brief explanations of each component, are displayed below.

#### ALTERNATIVE INFORMATION BLOCK

	COMPONENT		EXPLANATION
1.	Name of Alternative	1.	Enter the alternative name up to 20 characters long. to 20 alternatives may be identified.
2.	Descriptive Title of Alternative	2.	Enter the alternative title, up to 2 lines of 48 characters each. When the descriptive title is complete, enter a <cr> at next prompt.</cr>
3.	Economic Life of Alternative	3.	The economic life is the period of time over which benefits from an alternation are expected to accrue. The economic life may be limited by its mission life or its physical life. The economic lives for alternatives need not be equal. A maximum of two digits is allowed.
4.	Titles for Expense Items	4.	Expense items are costs for each alternative. They can be negative, reflecting and influx of funds. Enter a title of up to 3 lines with maximum of 12 characters of the costs.

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The title may be

entered on one line if a colon is used to separate

each line.



## ALTERNATIVE INFORMATION BLOCK (Continued)



#### COMPONENT

#### **EXPLANATION**

- 5. Costs for Expense Items
- 5. Costs must be numbers such as 25000 and may contain a decimal point (such as 25000.). Enter a cost for each year in the period of analysis. Use of asterisks can abbreviate the input. For example: \$25,000 cost for 3 years and \$30,000 for the next 2 years can be input as 25000 25000 25000 30000 30000 or as 3\*25000 2\*30000. A maximum of 10 entries may be made on one line. Do not use dollar signs or commas.
- 6. Expense item to which a differential inflation index is applied (optional). If yes, 6.1 is required. If no, GOTO No. 7.
- 6. Costs may be assigned an inflation index other than no inflation. Enter the integer corresponding to the expense item.
- 6.1. Number of Differential Inflation Index

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- 6.1. Enter the integer corresponding to the desired differential inflation index (created in the Data Information Block).
- 7. Expense item to which a special discounting convention is assigned (optional). If yes, 7.1 is required. If no, GOTO No. 8.
- 7. Costs may be assigned a discounting convention other than the global discounting convention specified in the Data Information Block. Enter the integer corresponding to the expense item for which a change is desired.
- 7.1. Special Discounting Convention
- 7.1. Enter 1 <CR> for beginning-of year, 2 <CR> for middle-of-year, or 3 <CR> for end-of-year.



#### ALTERNATIVE INFORMATION BLOCK (Continued)

#### COMPONENT

#### EXPLANATION

N < CR > .

- 8. Decision as to whether to include a salvage value/residual schedule (optional). If yes, 8.1 is required. If no, GOTO No. 10.
- 8.1. If a salvage value/ residual schedule is appropriate, decision as to whether a onetime value or a residual schedule should be used. If a salvage value is used, 8.2 is required. If a residual schedule is used, 9 is required.
- 8.1. Enter <u>1 <CR></u> if the salvage value occurs at the end of the period of analysis. Enter 2 <CR> if a residual schedule should be used (as opposed to a salvage value).

8. A salvage/residual value is

analysis. If a salvage/

residual value is desired, enter Y <CR>; if not, enter

the value of the alternative

at the end of the period of

at some point in time, usually

- Net Terminal Value (if salvage value method was selected). GOTO No. 10.
  - 9. Selection of a residual schedule, if user feels a residual schedule is in order (instead of a one-time value). Options are straight line (SL), declining balance (DB), or user specified (US). If SL, 9.2, 9.3, 9.4, 9.6, and 9.7 are requested. If DB, 9.2, 9.3, 9.4, 9.5, If US, 9.2, 9.6, and 9.7 are requested.
  - 9.6, and 9.7 are requested.
- 9.1. Residual Schedule Number (optional)

- 8.2. Enter the salvage value of the asset. If it is a cost (requiring an expenditure to remove), enter it as a negative value.
  - 9. Enter 1 <CR> for straight line, 2 <CR> for declining balance, or 3 < CR > for user specified (defined in the Data Information Block).

9.1. Enter the integer corresponding to the appropriate residual schedule (defined in the Data Information Block).



## ALTERNATIVE INFORMATION BLOCK (Continued)

	COMPONENT		EXPLANATION	
9.2.	Residual Start Value (optional)	9.2.	Enter the original value of the asset.	
9.3.	Residual Life (optional)	9.3.	Enter the number of years over which the residual schedule will depreciate the worth of the asset. <cr> defaults to the economic life, which is usually appropriate unless the residual life is specified by statute or public life.</cr>	
9.4.	Starting Year of the Residual (optional)	9.4.	Enter the first year the residual calculations begin. This usually corresponds to the year construction is completed.	N.
9.5.	Residual Rate (optional)	9.5.	Enter the rate at which the residual is to decline (in percentage terms).	
9.6	Residual Inflation Index (optional)	9.6.	Enter integer corresponding to proper inflation index (defined in Data Information Block).	
9.7	Convention (optional)  If this is a secondary	9.7.	Enter 1 <cr> for beginning-of year, 2 <cr> for middle-of-year, or 3 <cr> for end-of-year. Entering <cr> causes ECONPACK to default to the end-of-year</cr></cr></cr></cr>	
	analysis, GOTO No. 15.		discounting convention.	
10.	Recurring Costs (relevant for status quo or proposed alternativeprimary); optional	10.	Enter integer(s) corresponding to expense item(s) which occur periodically, usually annually.	Æ.



## ALTERNATIVE INFORMATION BLOCK (Continued)

<i>,</i>	COMPONENT		EXPLANATION
1:	Refurbishment Costs (relevant for status quo alternativeprimary)	11.	Enter integer(s) corresponding to expense item(s) required to make an existing facility usable for the mission.
12	2. Investment Costs (relevant for proposed alternativeprimary)	12.	Enter integer(s) corresponding to expense item(s) required to implement the proposed alternative.
1:	3. Inherited Assets (relevant for proposed alternativeprimary)	13.	Enter integer(s) corresponding to expense item(s) which are existing assets to be used as part of a proposed alternative.
14	<ol> <li>Replaced Assets (relevant for proposed alternativeprimary)</li> </ol>	14.	Enter integer(s) corresponding to expense item(s) which are existing items that will be replaced due to the alternative.
1	5. Return to No. 1 for next alternative.	15.	The foregoing procedure is required for each alternative in the EA.



#### Source/Derivation of Costs and Benefits Text Block



The sixth block of an input file is the Source/deviation of Costs and Benefits Text Block. This feature allows the analyst to document sources for costs, discuss benefits of alternatives which, although important, are not appropriate for inclusion in the EA, etc.

The system will type NEW FILE: E>\_\_\_\_\_





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The seventh block of the input file is the Graphics Information Block. The component of this block, along with its description, is displayed below.

#### GRAPHICS INFORMATION BLOCK

## <u>COMPONENT</u> <u>EXPLANATION</u>

- Alternative numbers to be graphed
- Enter integer(s) corresponding to alternative(s) to be graphed on the same line, such as 1 2 3. A maximum of 6 alternatives may be graphed. The system allows for 4 separate graphs.

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The eighth block of the input file is the Sensitivity Analysis Information Block. The components of that block, along with an explanation of each component, are displayed below.



#### SENSITIVITY ANALYSIS INFORMATION BLOCK

	COMPONENT		EXPLANATION
1.	Title of sensitivity analysis	1.	Normally, the title should reflect what costs are being varied. A maximum of 60 characters is allowed and must be entered on one line.
2.	Two alternatives to be included in the sensitivity analysis.	2.	Enter integers corresponding to the appropriate alternatives. Enter data on one line.
3.	Expense item(s) to be changed for Alternative A	3.	Enter the integer(s) corresponding to the appropriate expense item(s). Enter <cr> to continue to the next prompt. Enter DEL <cr> to delete all expense items.</cr></cr>
4.	Expense item(s) to be changed for Alternative B	4.	Enter the integer(s) corresponding to the appropriate expense item(s). Enter <cr> to continue to the next prompt. Enter DEL <cr> to delete all expense items.</cr></cr>
5.	Upper limit of change	5.	Enter upper limit as a percent. (E.g., enter 30 for 30%.) Enter <cr> to default to 200%.</cr>
6.	Alternative to be ranked as least cost	6.	Enter the integer corresponding to the alternative that is to be ranked as least cost. Obviously this alternative must have been designated as one of the two alternatives to be included in the sensitivity analysis.



#### Results and Recommendations Text Block

The ninth and final block of the input file is the Results and Recommendation Text Block. Here, the analyst provides a commentary on the outcome of the EA and makes an appropriate recommendation, based on that outcome.

The system will type NEW FILE: E>\_\_\_\_



After all blocks are completed, the system asks the user if the file is to be saved. If the user answers "Yes", the system asks if economic analysis reports are to be generated. If the answer is "Yes", the system displays the Available ECONPACK Reports Menu and prompts for which reports are to be printed. (This menu will be discussed subsequently.) If the user answers "No", the system returns to the MAIN ECONPACK MENU. The next section of this chapter explains how to add to or change an existing (previously created) input file.

5.3 MAIN ECONPACK MENU Option 2: Add to or Change an Existing Input File: Once an input file is created and saved, it is possible to update and/or change all data. MAIN ECONPACK MENU Option 2 allows the user to select the block(s) to change and then prompts for detailed changes. [Note: The modified file must be saved and economic analysis reports must be generated from the modified file in order for the changes to become a part of the permanent disk.]

Before Option 2 from the MAIN ECONPACK MENU can be used, the name of the file the user wishes to change must be known.

If the user wishes to review all existing input filenames, MAIN ECONPACK MENU Option 6, File Maintenance, should be utilized. Section 5.7 explains the appropriate steps.

If the user already knows the name, these steps should be followed:

- 1. Select Option 2 from the MAIN ECONPACK MENU.
- 2. Enter the appropriate filename when prompted.
- 3. Select the desired option from the Add to or Change An Existing Input File Menu. (See below.)

Once the filename is entered, ECONPACK displays the following Change Menu so the user can select which block(s) to modify:

#### \*\* CHANGE MENU \*\*\*

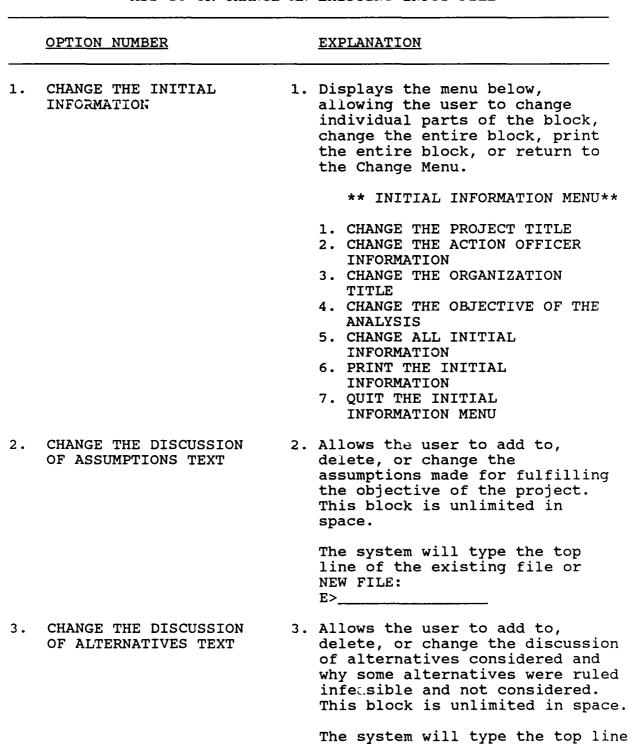
- 1. CHANGE THE INITIAL INFORMATION
- 2. CHANGE THE DISCUSSION OF ASSUMPTIONS TEXT
- 3. CHANGE THE DISCUSSION OF ALTERNATIVES TEXT
- 4. CHANGE THE DATA INFORMATION
- 5. CHANGE THE ALTERNATIVE INFORMATION
- 6. CHANGE THE SOURCE/DERIVATION OF COSTS AND BENEFITS TEXT
- 7. CHANGE THE GRAPHICS INFORMATION
- 8. CHANGE THE SENSITIVITY ANALYSIS INFORMATION
- 9. CHANGE THE RESULTS AND RECOMMENDATIONS TEXT
- 10. CHANGE ALL INFORMATION
- 11. QUIT THE CHANGE MENU

enega jegesese zaaraze barazaa jegesese parende seenaan zaunda jegesista jaranda jegesista jaranda jaranda jar

ENTER	DESIRED	OPTION:	



#### MAIN ECONPACK MENU OPTION 2: ADD TO OR CHANGE AN EXISTING INPUT FILE





of the existing file or NEW FILE:

#### MAIN ECONPACK MENU OPTION 2: ADD TO OR CHANGE AN EXISTING INPUT FILE (Continued)



#### OPTION NUMBER

#### **EXPLANATION**

## 4. CHANGE THE DATA INFORMATION

4. Displays the menu below, allowing the user to change individual parts of the block, change the entire block, print the entire block, or return to the Change Menu.

#### \*\*DATA INFORMATION MENU\*\*

- CHANGE THE PERIOD OF ANALYSIS
- 2. CHANGE THE START YEAR
- 3. CHANGE THE BASE YEAR
- 4. CHANGE THE DISCOUNT RATE
- 5. CHANGE THE GLOBAL DISCOUNTING CONVENTION
- 6. CHANGE THE DIFFERENTIAL INFLATION INDEX INFORMATION
- 7. CHANGE THE RESIDUAL SCHEDULE INFORMATION
- 8. CHANGE THE TYPE OF ANALYSIS
- 9. CHANGE THE COST INPUT METHOD
- 10. CHANGE ALL DATA INFORMATION
- 11. PRINT THE DATA INFORMATION
- 12. QUIT THE DATA INFORMATION MENU

## 5. CHANGE THE ALTERNATIVE INFORMATION

5. Displays the menu below, allowing the user to change, for each alternative, individual parts of the block, change the entire block, print the entire block, or return to the Change Menu:

#### \*ALTERNATIVE INFORMATION MENU\*

- 1. CHANGE ALTERNATIVE NAME
- 2. CHANGE ALTERNATIVE DESCRIPTION
- 3. CHANGE ECONOMIC LIFE
- 4. CHANGE EXPENSE ITEM INFORMATION





#### MAIN ECONPACK MENU OPTION 2: ADD TO OR CHANGE AN EXISTING INPUT FILE (Continued)

	OPTION NUMBER	<u> </u>	<u>EXPLANATION</u>
5.	CHANGE THE ALTERNATIVE INFORMATION (Continued)	5.	5. CHANGE RESIDUAL (SALVAGE) VALUE INFORMATION 6. CHANGE EXPENSE ITEM CATEGORIZATION INFORMATION (PRIMARY ANALYSIS ONLY) 7. CHANGE ALL ALTERATIVE INFORMATION 8. PRINT THE ALTERNATIVE INFORMATION 9. QUIT THE ALTERNATIVE INFORMATION MENU
6.	CHANGE THE SOURCE/ DERIVATION OF COSTS AND BENEFITS TEXT	6.	Allows the user to add to, delete, or change the discussion of the sources and deviations of the cost and benefits data used in the EA. This block is unlimited in space.  The system will type the top line of the existing file or NEW FILE E>
7.	CHANGE THE GRAPHICS INFORMATION	7.	Allows the user to add, change, or delete graphics information.
8.	CHANGE THE SENSITIVITY ANALYSIS INFORMATION	8.	Allows the user to add, change, or delete components of the Sensitivity Analysis Information Block.
		Co	mponents of this block include:
		в. с.	Which alternatives are included Which expense items are to be changed The limits on the changes Which alternative is to be ranked

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#### MAIN ECONPACK MENU OPTION 2: ADD TO OR CHANGE AN EXISTING INPUT FILE (Continued)



	OPTION NUMBER		EXPLANATION
9.	CHANGE THE RESULTS AND RECOMMENDATIONS TEXT	9.	Allows the user to add to, delete, or change the discussion concerning the preferred alternative. This block is unlimited in space.
		·	The system will type the top line of the existing file or NEW FILE: E>
10.	CHANGE ALL INFORMATION	10.	Allows the user to change each information block in the order below:
			A. Initial Information B. Discussion of Assumptions Text C. Discussion of Alternatives     Text D. Data Information E. Alternative Information F. Source/derivation of Cost and     Benefits Text G. Graphics Information H. Sensitivity Analysis     Information I. Results and Recommendations     Text
11.	QUIT THE CHANGE MENU	11.	Asks user if the editing session is to be saved and asks if reports are to be generated. If reports are to be generated, asks which reports are to be printed (after generation takes place). If the user does not wish to generate economic analysis reports, the system returns to the MAIN ECONPACK MENU.





5.4 MAIN ECONPACK MENU Option 3: Generate Economic Analysis
Reports: This option should be selected when the user is ready to
actually perform the EA. A successful EA will take between 2 and 3
minutes per 100 lines of output.

To use Option 3, the steps below should be followed:

- 1. Select Option 3 from the MAIN ECONPACK MENU.
- 2. Enter the input filename when prompted.
- 3. Select the desired ECONPACK report. (See below.)
- 5.5 MAIN ECONPACK MENU Option 4: Print Economic Analysis
  Reports: This option allows the user to choose which report(s)
  from a specified input file to print. When Option 4 is selected,
  the following menu appears (after the appropriate input filename
  is entered):

#### AVAILABLE ECONPACK REPORTS

- PRINT ALL REPORTS
- 2. PRINT EXECUTIVE SUMMARY OF ANALYSIS
- 3. PRINT COMPARISON PLOTS
- 4. PRINT LIFE CYCLE COST COMPARISON REPORTS
- 5. PRINT SENSITIVITY ANALYSIS REPORTS
- 6. PRINT INPUT LISTING
- 7. RETURN TO MAIN MENU ECONPACK MENU

ENTER	DESIRED	OPTIONS>	

Each option is now briefly described.



#### MAIN ECONPACK MENU OPTION 4: PRINT ECONOMIC ANALYSIS REPORTS



#### OPTION NUMBER

#### EXPLANATION

- 1. PRINT ALL REPORTS
- 1. Prints executive summary of analysis, comparison plots, life cycle cost comparison reports, sensitivity analysis reports, and input listings.
- 2. PRINT EXECUTIVE SUMMARY
  OF ANALYSIS
- Prints data information, assumptions of the analysis, discussion of alternatives, and, for each alternative, the following values: net present value, equivalent uniform annual cost, and, if a primary analysis, prints the savings to investment ratio and discounted payback period.
- 3. PRINT COMPARISON PLOTS
- 3. Prints a plot of the cumulative net present value, over the period of analysis, for each alternative graphed.
- 4. PRINT LIFE CYCLE COST COMPARISON REPORTS
- Prints each expense item, by year, by alternative. For each alternative, prints the cumulative present value, present value residual, and cumulative net present value, by year; prints the equivalent uniform annual cost by alternative; prints the discount rate used, number of years in the period of analysis, and the inflation index number used for each expense item. If primary analysis, prints recurring annual operations costs for the present alternative and the proposed alternative(s), differential costs, present value of differential costs, total present value of investment, present value of existing assets to be used, present value of existing assets replaced, present value of terminal value of alternative, total present value of net investment,





# MAIN ECONPACK MENU OPTION 4: PRINT ECONOMIC ANALYSIS REPORTS (Continued)

	OPTION NUMBER		EXPLANATION
4.	4. PRINT LIFE CYCLE COST COMPARISON REPORTS (Continued)		present value of cost refurbishment or modification eliminated, status quo salvage value, total present value of savings, savings/investment ratio, and discounted payback period. Prints Source/derivation of Costs and Benefits Text Block and Results and Recommendations Text Block.
5.	5. PRINT SENSITIVITY ANALYSIS REPORTS		Prints the sensitivity analysis number, title, allowable change, objective, initial ranking (before variable is manipulated), expense item for each alternative to be manipulated, net present value of each alternative, table of percent changes where alternatives' NPVs are equal, and percent change required to reverse the initial ranking.
6.	PRINT INPUT LISTING	6.	Prints the input file, line by line.
7.	RETURN TO MAIN ECONPACK MENU	7.	Returns the user to the MAIN ECONPACK MENU.



5.6 MAIN ECONPACK MENU Option 5: Check Manual Input File for Errors: This option allows the user to check an existing input file (whose name must be known) for syntax errors. Errors, by block, will be listed. This option should only be used when data was entered by the file input mode, not when it was entered via the terminal prompting mode. This function does not check the accuracy of data entered.





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5.7 MAIN ECONPACK MENU Option 6: File Maintenance: Option 6 permits the user to perform various manipulations on the input files and report files stored on the ECONPACK permanent disk, as indicated by the menu shown below:

#### \*\*\* FILE MAINTENANCE MENU \*\*\*

- PRINT DIRECTORY OF FILES
- 2. DUPLICATE INPUT FILE
- 3. RENAME EXISTING INPUT FILE AND REPORTS
- 4. ERASE EXISTING INPUT FILE AND REPORTS
- 5. TRANSMIT INPUT FILES TO OTHER USERS
- 6. RECEIVE INPUT FILES FROM OTHER USERS
- 7. RETURN TO MAIN ECONPACK MENU

ENTER DESIRED	OPTION>
---------------	---------

Each menu option, along with its explanation, is displayed below:

#### MAIN ECONPACK MENU OPTION 6: FILE MAINTENANCE MENU

## •

#### OPTION NUMBER

#### **EXPLANATION**

- 1. PRINT DIRECTORY OF FILES
- 1. If ECONPACK is accessed by a DD Form 1391 Processor System user, the directory below is displayed when Option 1 from the File Maintenance Menu is selected.
  - \*\*DIRECTORY OF FILES OPTIONS\*\*
  - 1. PRINT DIRECTORY OF YOUR WORKING FILES
  - 2. PRINT DIRECTORY OF YOUR DD1391 FORMS CONTAINING ECONPACK REPORTS
  - 3. PRINT DIRECTORY OF ALL DD1391 FORMS CONTAINING ECONPACK REPORTS
  - 4. PRINT DIRECTORY OF ARCHIVED ECONPACK INPUT FILES
  - 5. PRINT DIRECTORY OF EXAMPLE ECONPACK INPUT FILES
  - 6. RETURN TO FILE MAINTENANCE MENU

#### MAIN ECONPACK MENU OPTION 6: FILE MAINTENANCE MENU (Continued)



#### OPTION NUMBER

#### **EXPLANATION**

- PRINT DIRECTORY
   OF FILES (Continued)
- 1. The options just listed command ECONPACK to perform the following tasks:
  - 1. Print a directory of files from user's permanent disk
  - 2. Print a directory of user's DD1391 forms which contain ECONPACK reports
  - 3. Print a directory of all DD1391 forms which contain ECONPACK reports
  - 4. Print a directory of archived ECONPACK files
  - 5. Print a directory of OCEpreferred-form files (suitable for examples)
  - 6. Return user to the File Maintenance Menu

IF 2 OR 3, PLEASE ENTER DIRECTORY TYPE (DIR, DIR/F, DIR/W) AND OPTIONS:>\_\_\_\_\_

[Users may identify specific keywords and values to direct the computer to find specific types of input files. If users wish to copy a file from Options 2, 3, 4, or 5, they must use Option 2 on the File Maintenance Menu and enter the DD1391 Form Number for the existing filename. Users may consult Chapter 4 for further explanations of these commands.]



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#### MAIN ECONPACK MENU OPTION 6: FILE MAINTENANCE MENU (Continued)

OPTION NUMBER		EXPLANATION
1. PRINT DIRECTORY OF FILES (Continued)	1.	If ECONPACK is accessed by a non-DD Form 1391 Processor System user, Option 1 causes the system to simply display a director of input files and a directory of report files stored on the user's permanent disk.
2. DUPLICATE INPUT FILE	2.	Permits the user to create a new input file by copying and renaming an existing input file.
		This option is particularly useful to those who wish to manipulate an input file, changing variables to see "what if." Exercising this option allows the original file to remain intact and relieves the user of the necessity of remembering the changes made in order to restore the file to its original condition.
		Files may be located on either the user's permanent disk or on the ECONPACK Common Directory (Options 2, 3, 4, or 5 of the Directory Options)

Options).



#### MAIN ECONPACK MENU OPTION 6: FILE MAINTENANCE MENU (Continued)



#### OPTION NUMBER

#### **EXPLANATION**

2. DUPLICATE INPUT FILE (Continued)

#### **EXAMPLE:**

- \*\*\*\*FILE MAINTENANCE MENU \*\*\*
- 1. PRINT DIRECTORY OF FILES
- 2. DUPLICATE INPUT FILE
- 3. RENAME EXISTING FILE AND REPORT
- 4. ERASE EXISTING FILE AND REPORT
- 5. TRANSMIT INPUT FILES TO OTHER USERS
- 6. RECEIVE INPUT FILES FROM OTHER USERS
- 7. RETURN TO MAIN ECONPACK MENU

ENTER DESIRED OPTION>2 <CR>

ENTER PRESENT INPUT FILE NAME>
<CR> TO EXIT>JASMINE2 <CR>

ENTER NEW INPUT FILE NAME>JASMINE3 <CR>JASMINE3 INPUT FILE CREATED ON 10/27/87

ANY OTHER INPUT FILES TO BE DUPLICATED (Y/N)?>N <CR>

- 2.1. COPYING AN INPUT
  FILE FROM THE COMMON
  DIRECTORY [This
  option is available
  only to users who
  accessed ECONPACK
  from within the DD
  Form 1391 Processor
  System.]
- 2.1. Instructions for duplicating an input file differ, depending upon whether the file was created by the current user or by another user. If the file was created by the current user, the following instructions are appropriate:
  - A. Access the Common
    Directory by utilizing Option 1
    from the Directory of Files
    Options Menu and identify the
    filename to be copied.





#### MAIN ECONPACK MENU OPTION 6: FILE MAINTENANCE MENU (Continued)

#### OPTION NUMBER

#### **EXPLANATION**

2.1. COPYING AN INPUT FILE FROM THE COMMON DIRECTORY (Continued)

- B. Exit the Directory of Files Options Menu by executing Option 6. The system will return the user to the File Maintenance Menu.
- C. At the File Maintenance Menu, execute Option 2. The system will prompt the user for the present filename and a new input filename. At this prompt, users should enter their DD1391 Form numbers. The system will then create the new file on the user's permanent disk.
- D. Change the new input file as desired by utilizing Option 2 from the MAIN ECONPACK MENU, Add to or Change an Existing Input File.
- E. Generate new ECONPACK reports.
- F. Transfer the new report file to the DD1391 Form in the same manner as before. The system will erase the old ECONPACK input file from the Common Directory, replacing it with the new input file.

If the user who wishes to duplicate the file is not the person who originally created that file, the following directions should be followed:





#### OPTION NUMBER

# **EXPLANATION**

- 2.1. COPYING AN INPUT FILE FROM THE COMMON DIRECTORY (Continued)
- A. Follow Items A and B just described on pages 5-30 through 5-31.
- B. At the File Maintenance Menu, execute Option 7. The system will return the user to the MAIN ECONPACK MENU.
- C. At the MAIN ECONPACK MENU, execute Option 2, Add to or Change an Existing Input File.
- D. Change the input file as desired.
- E. Generate new ECONPACK reports.
- F. Users may then transfer the modified ECONPACK report file to Special Requirements Paragraph #1, using the procedures in Chapter 8 of this manual.

- 3. RENAME EXISTING FILE AND REPORTS
- 3. Allows user to rename an existing input file and its corollary report file simultaneously. After execution, the old filename will no longer appear in the directory, but will be replaced by the new filename.





# **\*\*\*\***

#### **EXPLANATION**

3. RENAME EXISTING FILE AND REPORTS (Continued)

OPTION NUMBER

#### EXAMPLE:

- \*\*\*\*FILE MAINTENANCE MENU \*\*\*
- 1. PRINT DIRECTORY OF FILES
- 2. DUPLICATE INPUT FILE
- 3. RENAME EXISTING FILE AND REPORT
- 4. ERASE EXISTING FILE AND REPORT
- 5. TRANSMIT INPUT FILES TO OTHER USERS
- 6. RECEIVE INPUT FILES FROM OTHER USERS
- 7. RETURN TO MAIN ECONPACK MENU

ENTER DESIRED OPTION>3 <CR>

ENTER PRESENT INPUT FILE NAME>
<CR> TO EXIT > JASMINE3 <CR>

ENTER NEW INPUT FILE NAME>JASMINE4 <CR>JASMINE4 INPUT FILE CREATED ON 10/27/87

4. ERASE EXISTING FILE AND REPORT 4. Presents the following menu:

\*\*ERASE OPTIONS \*\*

1. ERASE REPORTS ONLY

- 2. ERASE INPUT FILE AND REPORTS
- 3. RETURN TO FILE MAINTENANCE MENU

ENTER DESIRED OPTION>\_\_\_\_\_

Option 1 allows the user to erase unwanted files listed in the report file directory.

Option 2 allows the user to erase unwanted files listed in the input file directory and their corresponding report files simultaneously.

Option 3 or <u>/QUIT <CR></u> returns user to the File Maintenance Menu.





### OPTION NUMBER

#### **EXPLANATION**

# 5. TRANSMIT INPUT FILES TO OTHER USERS

of an input file to the permanent disk of another user. The PAX System User ID of the intended receiver must be known. The sender of the input file is asked if a copy of the input file should be saved on his/her permanent disk.

#### **EXAMPLE:**

#### \*\*\*\*FILE MAINTENANCE MENU \*\*\*

- 1. PRINT DIRECTORY OF FILES
- 2. DUPLICATE INPUT FILE
- 3. RENAME EXISTING FILE AND REPORT
- 4. ERASE EXISTING FILE AND REPORT
- 5. TRANSMIT INPUT FILES TO OTHER USERS
- 6. RECEIVE INPUT FILES FROM OTHER USERS
- 7. RETURN TO MAIN ECONPACK MENU

# ENTER DESIRED OPTION>5 < CR>

ENTER PRESENT INPUT FILE NAME>
<u>JASMINE <CR></u>

ENTER OTHER USER'S PAX USERID?>  $\underline{\text{BIRD}}$   $\underline{<\text{CR}>}$ 

DO YOU WANT TO SAVE A COPY OF YOUR FILES (Y/N)?>Y <CR>

SENDING FILE TO BIRD ON 10/27/87

DO YOU WISH TO SEND ANOTHER FILE (Y/N)? >N < CR>



### OPTION NUMBER

#### **EXPLANATION**

6. RECEIVE INPUT FILES FROM OTHER USERS

6. Allows the user to receive one or more input files from another The user is notified in the "Welcome to ECONPACK" message that one or more transmit files are Option 6 of the File waiting. Maintenance Menu allows the user to receive the file, delete the file, or quit. If the transmit file is received, it may become a part of the user's permanent disk and is listed in the user's input file directory. The user is given the option of renaming the received file(s).

EXAMPLE OF NOTICE:

\*\*\*WELCOME TO THE ECONPACK SYSTEM!
\*\*\*VERSION 3.1 (14 JULY 1987)

IDENTIFICATION: [Enter your System
IDENT word.]

YOU HAVE JUST ENTERED ECONPACK AS:

\*\*\* SYSTEM NOTICE \*\*\*

\*\*USERID BIRD HAS 1 TRANSMIT FILES WAITING \*\*\*





#### OPTION NUMBER

#### **EXPLANATION**

- 6. RECEIVE INPUT FILES FROM OTHER USERS (Continued)
- 6. EXAMPLE OF HOW TO RECEIVE A FILE:
  - \*\*\*\*FILE MAINTENANCE MENU \*\*\*
  - 1. PRINT DIRECTORY OF FILES
  - 2. DUPLICATE INPUT FILE
  - 3. RENAME EXISTING FILE AND REPORT
  - 4. ERASE EXISTING FILE AND REPORT
  - 5. TRANSMIT INPUT FILES TO OTHER USERS
  - 6. RECEIVE INPUT FILES FROM OTHER USERS
  - 7. RETURN TO MAIN ECONPACK MENU

### ENTER DESIRED OPTION>6 <CR>

THE FOLLOWING INPUT FILE(S) HAVE BEEN SENT TO YOU FROM USER ID BIRD: FILENAME SIZE

TEST 121

DO YOU WANT TO RECEIVE A FILE, DELETE A FILE, OR QUIT? (R/D/QUIT) >R <CR>

WHICH FILE NAME DO YOU WISH TO RECEIVE? >TEST <CR>

DO YOU WISH TO RENAME THE FILE? >N <CR>

FILE, TEST FT75F001, HAS BEEN PLACED ON YOUR A DISK

[Your A disk is another name for your permanent disk.]





# OPTION NUMBER

# EXPLANATION

- 7. RETURN TO MAIN ECONPACK MENU
- 7. Returns the user to the MAIN ECONPACK MENU.



- 5.8 MAIN ECONPACK MENU Option 7: HELP Facility: This option produces a menu which allows the user to get help for several categories. The items on the HELP Facility Menu change periodically. However, typical items include the ECONPACK newsletter, OCE Economic Briefs, ECONPACK general information, etc. The last item on the menu is always Return to MAIN ECONPACK MENU.
- 5.9 MAIN ECONPACK MENU Option 8 (DD Form 1391 Processor System Users): Exit to DD1391 Processor System: This option returns the user to a Time-of-Day prompt within the DD Form 1391 Processor System. Information on the Time-of-Day prompt is provided in Chapter 4.
- 5.9.1 MAIN ECONPACK MENU Option 8 (Non-DD Form 1391 Processor System Users): CMS: This option transfers the user to the Conversational Monitoring System. Information on CMS is provided in Chapter 4.
- 5.10 MAIN ECONPACK MENU Option 9 (Non-DD Form 1391 System Users): Exit to PAX Menu: Option 9 returns the user to the PAX System Menu. An example PAX System Menu contains the following items:

#### **EXAMPLE:**

- 1. ECONPACK
- 2. PAXMAIL
- 3. CAPCES
- 4. PRINT NEWSLETTER
- CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG

At the PAX prompt, <u>LOG <CR></u> should be entered if the user is ready to end the computer session. The communications connection should then be terminated. The user may also enter another option number to access a different PAX option.



#### 6.0 TERMINAL PROMPTING MODE

- <u>6.1 Introduction</u>: This chapter is for analysts who wish to use the prompting mode rather than the file input mode. Knowledge of creating a file using text editor commands is unnecessary.
- 6.2 General: Three sample interactive sessions in which files are created are given in this chapter. The analyst must organize the input data so that it is readily available when ECONPACK requests it. The following paragraphs correspond to the nine blocks in the input file. Familiarity with this structure will enable the user to organize his/her data and notes prior to an actual inputting session.
  - 1. The Initial Information Block includes the project title, the name, title, phone number, and organization of the action officer, and the objective of the analysis.
  - 2. The Discussion of Assumptions Text Block allows the user to discuss all assumptions considered for fulfilling the objective of the project. This block is unlimited for space.
  - 3. The Discussion of Alternatives Text Block allows the user to discuss all alternatives that were considered to fulfill this requirement and the reasons why some alternatives were considered infeasible for performing a life-cycle cost analysis.
  - 4. The Data Information Block includes the period of analysis, start year, base year, discount rate, global discounting convention, inflation indexes, residual schedules, type of analysis (primary or secondary), and cost input method.
  - 5. The Alternative Information Block includes all of the costing data for all alternatives in the analysis.
  - 6. The Source/derivation of Costs and Benefits Text Block allows the user to discuss the sources and derivations for the costs and benefits data used in the analysis. The user should also discuss what those benefits are and how important each benefit is for the fulfillment of the mission.
  - 7. The Graphics Information Block includes which alternatives are to be graphed.





- 8. The Sensitivity Analysis Information Block includes (for each sensitivity analysis) which alternatives are in the sensitivity analysis, which expense items are to be changed, the limits on the changes, and which alternative is to be ranked least cost.
- 9. The Results and Recommendations Text Block allows the user to discuss the preferred alternatives.

For a more detailed explanation of the structure and components of the input file, the user may benefit from a review of pages 5-6 through 5-16. The user should be aware that not all of the requested information is required for report generation. For example, the sensitivity analysis information and the results and recommendations text are normally added after initial report generation.

- 6.3 Case Studies: Secondary Economic Analysis: The examples in the succeeding sections demonstrate use of ECONPACK to interactively input files for the performance of economic analyses.
- 6.3.1 Officers' Quarters: The analyst lists the following information for easy reference when using ECONPACK:

Requirement - To provide 95,000 square feet of unaccompanied officer housing. There are two alternatives: construct a new facility or modify and existing building.

Project Title - Officers' Quarters

Action Officer - James R. Spindle, Master Planner, (202) 555-1212

Organization Title - DEH, Fort Alice

Objective of the Analysis - Provide 95,000 square feet of unaccompanied officer housing.

Period of Analysis - 27 years. Construction is assumed to take 2 years; half of the units will be available at the end of 1 year and beneficial occupancy for the remaining units will occur after 2 years. Modification of an existing facility (renovation) is expected to take only one year.

Start Year - 1987 (first year in which costs are incurred)

Base Year - 1987 (year to which all costs are converted to present value amounts)

Discount Rate - 10%

Costs - entered in actual dollars

Alternative 1 - New Construction
 Initial Construction Cost - 2\*3,250,000 25\*0
 Maintenance and Repair - 0 26,471 25\*52,942
 Utilities - 0 25,175 25\*50350
 New Roof in Year 15, HVAC in Year 20 14\*0 855,000 4\*0 1,170,000 7\*0
 Salvage Value - 2,600,000 (at the end of Year 27)

Alternative 2 - Modification
Renovation Upgrade - 5,890,000 26\*0
Upgrade in Year 15 (Roof), Year 20 (HVAC) 14\*0 855,000 4\*0 1,060,200 7\*0
Maintenance and Repair - 0 26\*123,500
Utilities - 0 26\*82,650
Demolition - 252,700 (at the end of the Year 27)

Graphics - plot both alternatives

[The prompting session for this case is displayed on pages 6-7 through 6-23.]

6.3.2 Panama Housing: The analyst lists the following information for easy reference when using ECONPACK:

Requirement - To provide housing for 500 families. There are four alternatives: lease housing through the Republic of Panama, build to lease, MCA construction, or purchase trailers/relocatable units.

Project Title - Panama Housing

Action Officer - Bob N.

Organization Title - USA - CERL

Objective of the Analysis - Determine the least cost method of housing 500 families.

Start Year - 1985

Base Year - 1985

Discount Rate - 8.6%

Costs - entered in thousands of dollars (\$1 = \$1,000)

- Inflation Index 2:
 15\*5 (5% differential inflation)

Alternative 1 - Build to Lease
Allowances - 4,350 1,450 13\*0
Lease Rent - 1,005 3,015 13\*4,020
Services - 12 36 13\*48
Utilities - 442 1,327 13\*1,770
Maintenance - 141 423 13\*564
Furniture and Equipment - 187.6 562.9 750.5 12\*138
Restoration - 5\*0 117 353 8\*94

[Differential Inflation Index 2 is assigned to all 7 expense items in this alternative.]

Alternative 2 - MCA Construction
Allowances - 2\*5,800 13\*0
Design and Construction - 21,538.4 14,406 13\*0
Utilities - 2\*0 13\*1,758
Maintenance and Repair - 2\*0 13\*540
Furniture and Equipment - 2\*0 380 12\*120
Services - 2\*0 13\*378
[Differential Inflation Index 1 is assigned to the "Allowance" and "Design and Construction" expense items; Differential Inflation Index 2 is assigned to each of the remaining expense items.]

Alternative 3 - Trailer/Relocatable Units
Allowances - 5,800 14\*0
Design and Construction - 22,473.6 14\*0
Services - 0 14\*378
Utilities - 0 14\*1,608
Maintenance and Repair - 0 10\*540 4\*792
Furniture and Equipment - 0 505 13\*120
[Differential Inflation Index 1 is assigned to the "Design and Construction" expense item;
Differential Inflation Index 2 is assigned to each of the remaining expense items.]

NOTE: Preliminary consideration was given to leasing housing through the Republic of Panama as a possible alternative for meeting the project objective. It was determined prior to the performance of the economic analysis that this approach was not viable, and, therefore, leasing through the Republic of Panama is not included as an alternative. Notice that this information is, however, included in the Alternatives Information Text Block.

Graphics - plot all three alternatives

Sensitivity Analysis - There are two sensitivity analyses

Sensitivity Analysis 1 - Test Changes in Construction Costs

- Alternative 2 and 3 included
- Alternative 2, change "Design and Construction" Costs
- Alternative 3, change "Design and Construction" Costs
- Upper limit of the change = 200%
- Rank Alternative 2 as least cost

Sensitivity Analysis 2 - Increase of "M&R" Costs for Alternative 3 vs. Next Lowest Cost Alternative (#2)

- Alternatives 2 and 3 included
- Alternative 2, no change in expense items
- Alternative 3, change "Maintenance and Repair" Costs
- Upper limit of the change = 50%
- Rank Alternative 2 as least cost

6.4 Case Study: Primary Economic Analysis: The analyst lists the following information for easy reference when using ECONPACK:

Project Title - Consolidated Maintenance Facility

Action Officer - Bernice Ellis

Organization - DEH, Fort Bowie

Objective - Provide 210,000 square feet of maintenance shops

Period of Analysis - 25 years. There are 2 alternative means of meeting the objective: upgrading the current facility or constructing a new facility. It will take 2 years to upgrade the existing facility; upgrading will also require acquisition of equipment and training during the first year. The equipment will need to be replaced in the 12th year.

A new facility will take 3 years to construct.

Start Year - 1989

Base Year - 1989

Discount Rate - 10% (using mid-year discounting convention)

Inflation - None

Cost - Entered in actual dollars

Alternative 1 (Status Quo) - Upgrade Status Quo Initial Upgrade - 2\*4,823,675 23\*0 Equipment - 3,540,684 10\*0 3,540,684 13\*0 Training - 25,000 24\*0 Annual M&R - 4\*62,960 21\*251,835 Annual Utilities - 25\*178,012 Personnel Cost - 25\*9,301,600 MHE Fuel - 25\*5,000 Depot Transport Cost - 25\*103,443 Vehicle Usage - 25\*26,440 Equipment Maintenance - 0 24\*297,283

[The first 3 expense items are refurbishment costs; the remaining expense items are recurring costs.]

Salvage Value - None

Alternative 2 (Proposed) - New Construction
Initial Construction Cost - 3\*9,000,000 22\*0
Equipment - 0 2\*3,123,275 10\*0 2\*3,123,275 10\*0
Training - 0 2\*25,000 22\*0
Annual M&R - 3\*62,960 22\*234,668
Annual Utilities - 3\*178,012 22\*242,030
Personnel - 3\*9,201,600 22\*5,699,175
MHE Fuel - 3\*5,000 22\*1,800
Vehicle Usage - 3\*26,440 22\*14,730
Equipment Maintenance - 3\*297,283 22\*312,570

[The first 3 expense items are new costs, the remaining expense items are recurring costs.]

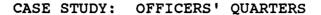
Salvage Value - 17,453,984

Graphics - None

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Sensitivity Analysis - None

[Users may consult Appendix D for the output generated from these three case studies.]



COMPUTER'S RESPONSE: PLEASE ENTER YOUR INPUT FILE NAME

(8 CHARACTERS MAX)

USER'S RESPONSE: >FTALICE <CR>

NOTES: The filename can be any combination of 8 or

less letters/characters/symbols. If the user supplies an input filename which already exists, the system will notify the user and allow the user to enter a new

filename. The system will assign the file

a filetype.

COMPUTER'S RESPONSE: ENTER THE PROJECT TITLE

(48 CHARACTERS MAX):

USER'S RESPONSE: >OFFICERS' QUARTERS <CR>

None.

NOTES:

COMPUTER'S RESPONSE: ENTER THE NAME, TITLE, AND PHONE NUMBER OF

THE ACTION OFFICER (48 CHARACTERS MAX):

USER'S RESPONSE: >JAMES R. SPINDLE, MASTER PLANNER, (202) 555-1212 <C

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ORGANIZATION TITLE

(48 CHARACTERS MAX):

USER'S RESPONSE: <u>>DEH, FORT ALICE <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE OBJECTIVE OF THE ANALYSIS

(48 CHARACTERS MAX):

#### USER'S RESPONSE:



## >PROVIDE 95000 SF OF UNACCOMPANIED OFFICER HOUSING <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE INITIAL INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DISCUSS ALL ASSUMPTIONS FOR THIS ECONOMIC

**ANALYSIS:** 

NEW FILE:

USER'S RESPONSE:E>I <CR>

I>Construction is assumed to take 2 years.<CR>
I>Half of the units will be available in <CR>
I>1988, and beneficical occupancy for the <CR>

I>remaining units will occur in 1989. <CR>

I>\_<CR>

I>Renovation is expected to take only one <CR>

I>year, <CR>

I><CR>

E>FILE <CR>

NOTES: At the E>, enter  $\underline{I} < CR >$  to enter the input mode.

Enter as much narrative as desired. To skip a line, press the space bar before entering the <<u>CR</u>>. When the narrative section is complete, enter a <<u>CR</u>> at the last I>. The system will return to the edit mode (E>). At the E>, type FILE <<u>CR</u>>. The system will save the file and

advance to the next prompt.





COMPUTER'S RESPONSE: DISCUSS ALL ALTERNATIVES CONSIDERED FOR

THIS ECONOMIC ANALYSIS:

NEW FILE:

#### USER'S RESPONSE:

- E>I <CR>
- I>New Construction this alternative will provide the <CR>
- I>required 95,000 sf of unaccompanied officer housing. <CR>
- I>\_<CR>
- I>Modification an existing, unoccupied administrative <CR>
- I>facility will be renovated to provide the necessary <CR>
- I>95,000 sf of housing for unaccompanied officers. <CR>
- I>\_<CR>
- I>Status Quo Operations this is a new mission <CR>
- I>requirement. There are no facilities available to <CR>
- I>accommodate this increase in troop strength. <CR>
- I>\_<CR>
- I>Pay BAO/VHA this alternative was eliminated from <CR>
- I>further evaluation due to the absence of housing <CR>
- I>available in the vicinity of Fort Alice. The closest <CR>
- I>town is 87 miles away. Winter conditions preclude <CR>
- I>commuting from this distance for 4 months of the <CR>
- I>year. Most importantly, mission requirements, due to <CR>
- I>the early deployment requirement, preclude this unit <CR>
- I>from being billeted off-post. <CR>
- I>\_<CR>
- I>Lease No existing facilities are available for <CR>
- I>lease within a 100-mile radius of the installation. <CR>
- I>The mission requirements of this unit (as discussed <CR>
- I>above) prevent this alternative from being feasible. <CR>
- I><CR>
- E>FILE <CR>



COMPUTER'S RESPONSE: ENTER THE PERIOD OF ANALYSIS

(60 YEARS MAX):

USER'S RESPONSE: >27 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE START YEAR OF THE ANALYSIS

(4 CHARACTERS REQUIRED):

USER'S RESPONSE: >1987 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE BASE YEAR OF THE ANALYSIS

(<CR> TO DEFAULT TO THE START YEAR):

USER'S RESPONSE: ><CR>

NOTES: 1987 is accepted as the base year.

COMPUTER'S RESPONSE: ENTER THE DISCOUNT RATE

(<CR> TO DEFAULT TO 10%):

USER'S RESPONSE: ><CR>

NOTES: ECONPACK uses a 10 percent discount rate

unless user indicates otherwise at this

prompt.

COMPUTER'S RESPONSE: ENTER THE GLOBAL DISCOUNTING CONVENTION

(<CR> TO DEFAULT TO 2): (1 = BEGINNING OF

YEAR, 2 = MIDDLE OF YEAR, 3 = END OF YEAR)

USER'S RESPONSE: ><CR>



COMPUTER'S RESPONSE: DO YOU WISH TO ADD A DIFFERENTIAL INFLATION

INDEX (Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: Enter Y for "yes" or N for "no."

COMPUTER'S RESPONSE: DO YOU WISH TO ADD A RESIDUAL SCHEDULE

(Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ANALYSIS TYPE PRIMARY OR

SECONDARY (P/S):

USER'S RESPONSE: >S <CR>

NOTES: Enter P for "primary" or S for "secondary."

COMPUTER'S RESPONSE: PLEASE SELECT ALTERNATIVE COST INPUT

METHOD.

1. AS ENTERED (DEFAULT)

2. IN THOUSANDS OF DOLLARS (\$1 = \$1,000)

3. IN MILLIONS OF DOLLARS (\$1 = \$1,000,000)

PLEASE ENTER CHOICE:

USER'S RESPONSE: ><CR>

NOTES: The cost input method selected at this

prompt applies to all expense items for all

alternatives.

COMPUTER'S RESPONSE: THIS COMPLETES THE DATA INFORMATION BLOCK.

ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 1

(20 CHARACTERS MAX):

USER'S RESPONSE: > NEW CONSTRUCTION < CR>

NOTES: A maximum of 20 alternatives is allowed.

COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF ALTERNATIVE 1

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE:

>PERMANENT CONSTRUCTION OF UNACCOMPANIED <CR>

>OFFICER QUARTERS (95000 SF) <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNATIVE 1

(<CR> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE: >27 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 1

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE:> INITIAL <CR>

>CONSTRUCTION <CR>

>COST <CR>

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*3250000 25\*0 <CR>

NOTES: Enter a cost for each year in the period of

analysis. Do not use dollar signs or commas. Construction will last two years

for this alternative.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 2

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MAINTENANCE <CR>

><u>AND <CR></u> >REPAIR <CR>

NOTES:

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 2

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 26471 25\*52942 <CR>

NOTES:

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 3

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >UTILITIES <CR>

><u><CR></u>

NOTES: If three lines are not needed, enter a <<u>CR></u>

to go to the next prompt.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: ><u>0 25175 25\*50350 <CR></u>

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > NEW ROOF < CR>

><u>IN YR 15 <CR></u> ><u>HVAC YR 20 <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 4

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >14\*0 855000 4\*0 1170000 7\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 5

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Alternative 1 has only 4 expense items.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION

(<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF EXPENSE

ITEMS. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE (RESIDUAL)

VALUE (Y/N)

USER'S RESPONSE: >Y <CR>

NOTES: None.

COMPUTER'S RESPONSE: SELECT

1. ONE TIME (AT THE END OF THE PERIOD OF

ANALYSIS)

2. USE RESIDUAL SCHEDULE

USER'S RESPONSE: >1 <CR>

NOTES: Whatever method chosen should be used for

all alternatives.

COMPUTER'S RESPONSE: ENTER THE SALVAGE VALUE:

USER'S RESPONSE: >2600000 <CR>



COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF EXPENSE

ITEMS. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINITION OF ALTERNATIVE 1.

ENTER ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 2

(20 CHARACTERS MAX):

USER'S RESPONSE: > MODIFICATION < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF ALTERNATIVE 2

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE:

>MODIFY AN EXISTING FACILITY TO PROVIDE 95000 SF OF <CR>

>UNACCOMPANIED OFFICERS' QUARTERS <CR>

NOTES:



COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNTIVE 2

(<CR> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE:

><<u>CR></u>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 1

(3 LINES OF CHARACTERS MAX):

NOTES:

USER'S RESPONSE: > RENOVATION < CR>

>UPGRADE <CR>

><CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE:

>5890000 26\*0 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 2

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE:

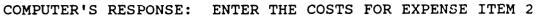
>UPGRADE IN <CR>

>YEAR 15 ROOF <CR>

>YEAR 20 HVAC <CR>

NOTES:

None.



(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >14\*0 855000 4\*0 1060200 7\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 3

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MAINTENANCE < CR>

>AND <CR>

>REPAIR <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 26\*123500 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >UTILITIES <CR>

><CR>



COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 4

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 26\*82650 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 5

(3 LINES OF 12 CHARACTERS MAX)

USER'S RESPONSE: > DEMOLITION < CR>

>COST <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 5

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >26\*0 252700 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 6

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Alternative 2 has only 5 expense items.



COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION (<CR> TO

EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF EXPENSE

ITEMS. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE (RESIDUAL)

VALUE (Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINITION OF ALTERNATIVE 2.

(ENTER ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 3

(20 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: This EA has only 2 alternatives.



COMPUTER'S RESPONSE: THIS COMPLETES THE ALTERNATIVE INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DISCUSS ALL SOURCES AND DERIVATIONS OF YOUR

COSTS AND BENEFITS FOR THIS ECONOMIC

ANALYSIS:

NEW FILE:

#### USER'S RESPONSE:

E>I < CR>

I>NEW CONSTRUCTION <CR>

I>Initial investment was determined to be \$74.00/sf, <CR>

I>per 415-17. Maintenance and repair estimates were <CR>

I>obtained from FY86 Tech Data Reports. These <CR>

I>costs were inflated to FY87 by OSD/OMB inflation <CR>

I>indexes as\_follows:<CR>

 $I > \frac{5.54}{sf} \times \frac{95,000}{sf} = \frac{51,300}{cR} < CR > \frac{51,300}{cR} = \frac{51,300}{sf} = \frac{51,$ 

 $I > $51,300 \times 1.032 \text{ (Inflation)} = $52,942 < CR >$ 

I><u>Utility costs are based on DEH historical records <CR></u>

I>@ .53 per sf. Roof replacement and HVAC <CR>

I>replacement were included in Years 15 and 20, <CR>

I>respectively. Roof estimates for both <CR>

I>alternatives were developed as follows:<CR>

I > \$9.00 per sf x 95,000 sf = \$855,000. < CR>

I>HVAC was assumed to be 18% of initial <CR>

I>construction/renovation costs. A residual value <CR>

I>for the facility was estimated to be 40% of <CR>

I>initial construction costs. <CR>

I><CR>

E>FILE <CR>



USER'S RESPONSE:

I>MODIFICATION <CR>

(Continued)

I>Renovation costs were estimated to be <CR>
I>\$62.00 per sf. Maintenance and repair <CR>

I>estimates were obtained from <CR>
I>historical records as follows:<CR>
I>\$1.30/sf x 95,000 sf = \$123,500. <CR>
I>Utilities estimates were also <CR>

I>obtained from historical records as <CR>
I>follows: \$.87/sf x 95,000 sf = \$82,650. <CR>

I>A one-time upgrade in Year 20 is <CR>
I>included to reflect overhaul of HVAC <CR>
I>and a new roof. Demolition costs for <CR>
I>the facility were estimated to be <CR>

I>\$2.66 per sf. <CR>

I><CR> E>FILE <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ALTERNATIVE NUMBERS FOR GRAPH 1

(<CR> TO EXIT):

USER'S RESPONSE: >1 2 <CR>

NOTES: Up to 6 alternatives may be graphed.

COMPUTER'S RESPONSE: ENTER THE ALTERNATIVE NUMBERS FOR GRAPH

NUMBER 2 (<CR> TO EXIT):

USER'S REL'PONSE: ><CR>

NOTES: ECONPACK allows up to 4 graphs.

COMPUTER'S RESPONSE: THIS COMPLETES THE GRAPHICS INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT/REDO

(A/C/P/R):

USER'S RESPONSE: >A <CR>



COMPUTER'S RESPONSE: ENTER THE TITLE OF SENSITIVITY ANALYSIS

NUMBER 1 (60 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: ECONPACK allows up to 30 sensitivity

analyses per EA. For this particular EA, the analyst decided a sensitivity analysis

was unnessary.

COMPUTER'S RESPONSE: DISCUSS ALL RESULTS AND RECOMMENDTIONS FOR

THIS ECONOMIC ANALYSIS:

NEW FILE:

USER'S RESPONSE:

E><u>I <CR></u>

I>The new construction alternative is the <CR>

I>least cost alternative and recommended to <CR>

I>provide the required 95,000 sf. In <CR>

I>addition to the quantitative advantages, <CR>

I>the new construction alternative offers <CR>

I>a higher ranking of non-monetary <CR>

I>considerations as follows:

I>\_<CR>

I>MODIFICATION NEW CONSTRUCTION <CR>

I><u><CR></u>

I>Moralefairhigh <CR>I>Displinefairvery good <CR>I>Re-enlistmentfairhigh <CR>I>Readinessfairexcellent <CR>I>Traffic Accidentsfairexcellent <CR>

I>(lost time) <CR>

I>Community Relations fair excellent <CR>

I><CR>

E>FILE <CR>

NOTES: None.

COMPUTER'S RESPONSE: YOUR FTALICE INPUT FILE HAS BEEN SAVED.

DO YOU WISH TO GENERATE ECONOMIC ANALYSIS

REPORTS (Y OR N)?

USER'S RESPONSE: >Y <CR>

NOTES:

If user responds "no," ECONPACK asks if the

input file is to be saved. After

responding to that question, the user is taken back to the MAIN ECONPACK MENU.



CASE STUDY: PANAMA HOUSING

COMPUTER'S RESPONSE: PLEASE ENTER YOUR INPUT FILE NAME

(8 CHARACTERS MAX)

USER'S RESPONSE: >PANAMA <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE PROJECT TITLE

(48 CHARACTERS MAX):

USER'S RESPONSE: >PANAMA HOUSING <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME, TITLE, AND PHONE NUMBER OF

THE ACTION OFFICER (48 CHARACTERS MAX):

USER'S RESPONSE: >BOB N. <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ORGANIZATION TITLE

(48 CHARACTERS MAX):

USER'S RESPONSE: >USA - CERL <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE OBJECTIVE OF THE ANALYSIS

(48 CHARACTERS MAX):

USER'S RESPONSE: > DETERMINE LEAST COST METHOD OF HOUSING 500 FAM < CR >



COMPUTER'S RESPONSE: THIS COMPLETES THE INITIAL INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE:

>A <CR>

NOTES:

None.

COMPUTER'S RESPONSE: DISCUSS ALL ASSUMPTIONS FOR THIS ECONOMIC

ANALYSIS:

NEW FILE:

### USER'S RESPONSE:

E>I <CR>

I>For the conventional MCA construction <CR>

I>alternative (#2), it is assumed that there will <CR>

I>be no payment made by the Republic of Panama <CR>

I>upon the transfer of the property in 1999. <CR>

I>\_<CR>

I>For the trailer/relocatable building alternative (#3), <CR>

I>it is assumed that the housing will be <CR>

I>transferred to the Republic of Panama in the <CR>

I>Year 2000. There is no anticipated payment by the <CR>

I>Republic of Panama. <CR>

I> <CR>

I>Beneficial occupancy for all alternatives will occur <CR>

I>in 1987. Lease units will be located on privately- <CR>

I>owned land. <CR>

I><CR>

E>FILE <CR>

NOTES:

None.



COMPUTER'S RESPONSE: DISCUSS ALL ALTERNATIVES CONSIDERED FOR THIS

**ECONOMIC ANALYSIS:** 

NEW FILE

USER'S RESPONSE: E>I <CR>

I>Four alternatives were initially <CR>
I>considered to meet the requirement <CR>
I>of housing 500 families. These are <CR>

I><u><CR></u>

I>1. Lease housing through the Republic <CR>

I>of Panama. The Army would enter <CR>
I>into an agreement to lease 500 units <CR>

I>from the Republic of Panama. <CR>

I>Discussions were conducted between <CR>
I>the U.S. Army and the Government of <CR>

I>Panama in June 1984. This <CR>

I>alternative was determined to be <CR>
I>infeasible and is, therefore, <CR>

I>eliminated from further consideration <CR>

I><u><CR></u>

I>2. Build housing to lease. Five <CR>
I>hundred housing units will be <CR>

I>constructed to U.S. Army <CR>

I>specifications by a private developer <CR>

I>and leased to the Army. <CR>

I> <CR>

I>3. Construct 500 on-post housing <CR>
I>units through the MCA program. <CR>

I>\_<CR>

I>4. Purchase trailers/relocatable <CR>

I>units. <CR>

I> <CR>
E>FILE <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE PERIOD OF ANALYSIS

(60 YEARS MAX):

USER'S RESPONSE: >15 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE START YEAR OF THE ANALYSIS

(4 CHARACTERS REQUIRED):

USER'S RESPONSE: >1985 <CR>



COMPUTER'S RESPONSE: ENTER THE BASE YEAR OF THE ANALYSIS

(<CR> TO DEFAULT TO THE START YEAR):

USER'S RESPONSE: ><CR>

NOTES: 1985 is accepted as the base year.

COMPUTER'S RESPONSE: ENTER THE DISCOUNT RATE

(<CR> TO DEFAULT TO 10%):

USER'S RESPONSE: >8.6 <CR>

NOTES: User wishes to override the 10% discount

rate.

USER'S RESPONSE: ENTER THE GLOBAL DISCOUNTING CONVENTION

(<CR> TO DEFAULT TO 2): (1 = BEGINNING OF

YEAR, 2 = MIDDLE OF YEAR, 3 = END OF YEAR)



USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO ADD A DIFFERENTIAL INFLATION

INDEX (Y/N)?

USER'S RESPONSE: >Y <CR>

NOTES: ECONPACK allows up to 10 inflation indexes.

COMPUTER'S RESPONSE: ENTER THE TITLE OF INFLATION INDEX 1

(20 CHARACTERS MAX):

USER'S RESPONSE: > MOBILE PROJECTION < CR>

COMPUTER'S RESPONSE: ENTER THE VALUES (%) FOR INFLATION INDEX 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >15\*7 <CR>

NOTES: Enter a value for each year in the period of

analysis.

COMPUTER'S RESPONSE: ENTER THE TITLE OF INFLATION INDEX 2

(20 CHARACTERS MAX):

USER'S RESPONSE: > OSD GENERAL < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE VALUES (%) FOR INFLATION INDEX 2

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >15\*5 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE OF INFLATION INDEX 3

(20 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Only 2 inflation indexes were needed for

this EA.

COMPUTER'S RESPONSE: ENTER THE ANALYSIS TYPE PRIMARY OR

SECONDARY (P/S):

USER'S RESPONSE: >S <CR>



COMPUTER'S RESPONSE: PLEASE SELECT ALTERNATIVE COST INPUT METHOD:

1. AS ENTERED (DEFAULT)

2. IN THOUSANDS OF DOLLARS (\$1 = \$1,000)

3. IN MILLIONS OF DOLLARS (\$1 = \$1,000,000)

PLEASE ENTER CHOICE:

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DATA INFORMATION BLOCK.

ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: ><u>A\_<CR></u>

COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 1

(20 CHARACTERS MAX):

USER'S RESPONSE: >BUILD TO LEASE <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF ALTERNATIVE 1

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE: >BUILD HOUSING TO LEASE <CR>

><u><CR></u>

NOTES: If 2 lines are not needed, enter <<u>CR></u> to go

to the next prompt.

COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNATIVE 1

(<CR> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE: >15 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 1

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >ALLOWANCES <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >4350 1450 13\*0 < CR>

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >LEASE <CR>

>RENT <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE 2

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >1005 3015 13\*4020 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 3

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >SERVICES <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >12 36 13\*48

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >UTILITIES <CR>

><CR>



(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >442 1327 13\*1770

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 5

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MAINTENANCE <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 5

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >141 423 13\*564 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 6

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > FURNITURE < CR>

>EQUIPMENT <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 6

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >187.6 562.9 750.5 12\*138 <CR>

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSES: >RESTORATION <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 7

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: ><u>5\*0 117 353 8\*94 <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 8

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES:

Attenuation 1 has only 7 expense items.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >1 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 1 (<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: ><u>2 <CR></u>

This inflation index was created in the Data NOTES:

Information Block.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSES: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 2
(<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >3 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 3
(<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >4 <CR>

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 4

(<CR>) DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >5 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 5 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE:

>2 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE:

>6 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 6 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >7 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 7 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION (<CR> TO

EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE CATEGORIZATION OF EXPENSE

ITEMS. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>



COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE (RESIDUAL)

VALUE (Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINITION OF ALTERNATIVE 1.

ENTER ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 2

(20 CHARACTERS MAX):

USER'S RESPONSE: >MCA CONSTRUCTION <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF ALTERNATIVE 2

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE:>CONVENTIONAL MCA CONSTRUCTION <CR>

>NO PAYMENT BY ROP UPON TRANSFER OF PROPERTY <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNATIVE 2

(<CR> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE: >15 <CR>

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >ALLOWANCES <CR>

><<u>CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*5800 13\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 2

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > DESIGN < CR>

>AND <CR>

>CONSTRUCTION <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 2

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >21538.4 14406 13\*0 <CR>



(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >UTILITIES <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*0 13\*1758 <CR>.

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MAINTENANCE <CR>

>AND <CR>
>REPAIR <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 4

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*0 13\*540 <CR>



(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > FURNITURE < CR>

>AND <CR>

>EQUIPMENT <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 5

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*0 380 12\*120 < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 6

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >SERVICES <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 6

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*0 13\*378 <CR>



(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Alternative 2 has only 6 expense items.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >1 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 1 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >1 <CR>



NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 2
(<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >1 <CR>



COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >3 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 3

(<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >4 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 4 (<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: ><u>5</u> <CR>



COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 5 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: >6 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 6 (<CR>) DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: ><CR>



COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION

(<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER COMPLETES THE IDENTIFICATION OF

EXPENSE ITEMS. ENTER ACCEPT/CHANGE/PRINT

(A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE (RESIDUAL

VALUE (Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINITION OF

ALTERNATIVE 2.

ENTER ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>



COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 3

(20 CHARACTERS MAX):

USER'S RESPONSE: >TRAILER/RELOCATABLE UNITS <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF ALTERNATIVE 3

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE: >TRAILER/RELOCATABLE UNITS CONSTRUCTED <CR>

>ON LAND AREAS UNDER U.S. CONTROL <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNATIVE 3

(<C?> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE: >15 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 1

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >ALLOWANCES <CR>

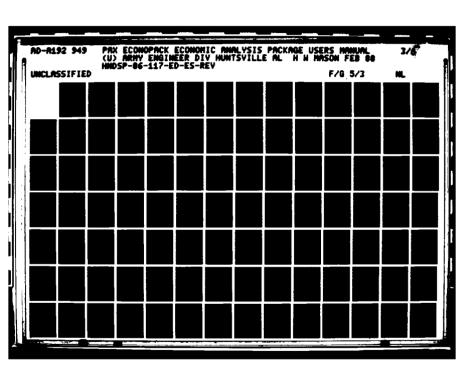
><CR>

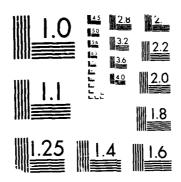
NOTES: None.

COMPUTERS RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >5800 14\*0 < CR>





MICROCOPY RESOLUTION TEST CHART

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > DESIGN < CR>

>AND <CR>

>CONSTRUCTION <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 2

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >22473.6 14\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 3

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >SERVICES <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: > 0.14\*378 < CR >

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >UTILITIES <CR>

><u><CR></u>

NOTES: None.



(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 14\*1608 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 5

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MAINTENANCE <CR>

><u>AND <CR></u> ><u>REPAIR <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 5

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 10\*540 4\*792 <CR>

(<u>•</u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 6

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > FURNITURE < CR>

>AND <CR>

>EQUIPMENT <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 6

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0.505.13\*120.0000

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Alternative 3 has only 6 expense items.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >1 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 1 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 2 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >1 <CR>



COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >3 <CR>

NOTES: None.

COMPUTERS RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 3 (<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >4 < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 4 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >5 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 5
(<CR> DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: >6 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NUMBER OF THE DIFFERENTIAL

INFLATION INDEX FOR EXPENSE ITEM 6 (<CR>

DEFAULTS TO NO INFLATION):

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX (<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION

USER'S RESPONSE: ><CR>

NOTES: None.



COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF EXPENSE

ITEMS. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE (RESIDUAL)

VALUE (Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINITION OF ALTERNATIVE 3.

ENTER ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME OF ALTERNATIVE 4

(20 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: This EA has only 3 alternatives.

COMPUTER'S RESPONSE: THIS COMPLETES THE ALTERNATIVE INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT/REDO

(A/C/P/R):

USER'S RESPONSE: >A <CR>



COMPUTER'S RESPONSE: DISCUSS ALL SOURCES AND DERIVATIONS OF YOUR

COSTS AND BENEFITS FOR THIS ECONOMIC

ANALYSIS:

NEW FILE:

## USER'S RESPONSE: E>I<CR>

I>Cost estimation was performed by the <CR>

I>estimators in the Mobile District Office. <CR>

I>Costs were estimated in 1985 dollars. <CR>

I>Maintenance, repair, utilities, <CR>

I>furniture, equipment, and services <CR>

I>costs estimates were made by the <CR>

I>DEH staff with the assistance of the <CR>

I>District Office <CR>.

I> <CR>

I>Two inflation indexes were used: one <CR>

I>developed by the Mobile District Office <CR>

I>and the second published by OSD Office <CR>
> <CR>

I>Alternative 1: Build to Lease <CR>

I> Lease rent, service, utilities, and <CR>

I> maintenance and repair costs are <CR>

I> specified in the lease contract and will <CR>

I> increase with inflation (OSD) inflation <CR>

I> rates were used.) <CR>

I> <CR>

I>Alternative 2: MCA Construction <CR>

I> MCA construction costs were develoed <CR>

I> by use of the TRI-Services Cost Model: <CR>

I> \$71,000,00 per unit x 500 units <CR>

I > = \$35,944,360.00 Utilities costs are  $\langle CR \rangle$ 

I> based on historical data at \$4,116.00 <CR>

I> per unit per year. Maintenance and <CR>

I> repair costs are based upon historical <CR>

I> data at \$1,080.00 per unit per year. <CR>

I> Service costs reflect garbage collection <CR>

I> and entomological services. This cost is <CR>

I> based upon current annual costs in Panama <CR>

I> of \$756.00 per unit. Equipment costs are <CR>

I> as follows: <CR>

I> Washer/dryler \$ 422.00 <CR>

I> Range \$ 722.00 <CR>

I> Refrigerator \$ 250.00 <CR>

I> TOTAL \$1,394.00 per unit <CR>
I> Maintenance and repair of equipment is <CR>

I> estimated to average \$23.00 per unit per <CR>

I> year. <CR>

I>Alternative 3: Trailer/Relocatable Housing <CR>

<u>I>Units <CR></u>

I> Each unit was estimated to cost <CR>

I> \$11,600.00 including furnishings. <CR</pre>

I> Transportation costs (services) is <CR>





USER'S RESPONSE:

(Continued)

I> estimated to be \$6,500.00 per unit. <CR>

I> <u>Utilities</u>, maintenance and repair, and <CR> equipment was based upon historical <CR>

data. Foundations, water and sewer <CR> I> I>\_ lines, and the road network is existing. <CR>

1><CR>

E>FILE <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE ALTERNATIVE NUMBERS FOR GRAPH NUMBER 1

(<CR> TO EXIT):

USER'S RESPONSE:

>1 2 3 <CR>

NOTES:

None.

COMPUTER'S RESPONSE:

ENTER THE ALTERNATIVE NUMBERS FOR GRAPH NUMBER 2

(<CR> TO EXIT):

USER'S RESPONSE:

><CR>

NOTES:

Analyst entered a <CR> to exit because only one

graph was needed.



COMPUTER'S RESPONSE: THIS COMPLETES THE GRAPHICS INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT/REDO

(A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE OF SENSITIVITY ANALYSIS NUMBER 1

(60 CHARACTERS MAX):

USER'S RESPONSE: >TEST OF CHANGES IN CONSTRUCTION COSTS <CR>

NOTES: Enter title on one line.

COMPUTER'S RESPONSE: ENTER THE TWO ALTERNATIVES TO BE INCLUDED IN THI

SENSITIVITY ANALYSIS:

USER'S RESPONSE: >2 3 <CR>

NOTES: Only 2 alternatives are allowed.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS TO CHANGE FOR ALTERNATIV

NUMBER 2:

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS TO CHANGE FOR ALTERNATIV

NUMBER 3:

USER'S RESPONSE: >2 <CR>



COMPUTER'S RESPONSE: ENTER THE UPPER LIMIT OF THE CHANGE

(<CR> TO DEFAULT TO 200%):

USER'S RESPONSE:> <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ALTERNATIVE NUMBER TO BE RANKED AS

LEAST COST:

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINITION OF

SENSITIVITY ANALYSIS NUMBER 1. ENTER ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE OF SENSITIVITY ANALYSIS

NUMBER 2 (60 CHARACTERS MAX):

USER'S RESPONSE:

> INCREASE OF M&R COSTS FOR ALT #3 VS NEXT LOWEST COST ALT #2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TWO ALTERNATIVES TO BE INCLUDED

IN THIS SENSITIVITY ANALYSIS:

USER'S RESPONSE: >2 3 <CR>



COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS TO CHANGE FOR

ALTERNATIVE NUMBER 2:

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS TO CHANGE FOR

ALTERNATIVE NUMBER 3:

USER'S RESPONSE: >5 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE UPPER LIMIT OF THE CHANGE

(<CR> TO DEFAULT TO 200%):

USER'S RESPONSE: >50 <CR>

NOTES: User wishes to override the ECONPACK

default value.

COMPUTER'S RESPONSE: ENTER THE ALTERNATIVE NUMBER TO BE RANKED

AS LEAST COST:

USER'S RESPONSE: >2 <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE DEFINTION OF SENSITIVITY

ANALYSIS NUMBER 2: ENTER

ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

COMPUTER'S RESPONSE: ENTER THE TITLE OF SENSITIVITY ANALYSIS

NUMBER 3 (60 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Only 2 sensitivity analysis were needed.

COMPUTER'S RESPONSE: THIS COMPLETES THE SENSITIVITY ANALYSIS

INFORMATION BLOCK. ENTER

ACCEPT/CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DISCUSS ALL RESULTS AND RECOMMENDATIONS FOR

THIS ECONOMIC ANALYSIS:

NEW FILE:

USER'S RESPONSE: E><u>I <CR></u>

I>As can be seen in the executive <CR>

I>summary, the lowest cost alternative <CR>
I>is the trailer/relocatable building <CR>
I>one. It is more than \$14 million <CR>
I>less expensive than any other. A <CR>
I>sensitivity analysis which allowed <CR>
I>the estimated maintenance costs to <CR>

I>increase by as much as 50% was <CR>

I>performed. The trailer alternative <CR>

I>was the lowest cost. <CR>

I><u><CR></u>

I>It is recommended that the trailer/ <CR>
I>relocatable building alternative be <CR>

I>funded. <CR>

I><u><CR></u>

E>FILE <CR>

COMPUTER'S RESPONSE: YOUR PANAMA INPUT FILE HAS BEEN SAVED. DO
YOU WISH TO GENERATE ECONOMIC ANALYSIS

USER'S RESPONSE: >Y < CR>

NOTES: None.



CASE STUDY: CONSOLIDATED MAINTENANCE FACILITY

COMPUTER'S RESPONSE: PLEASE ENTER YOUR INPUT FILE NAME

(8 CHARACTERS MAX):

USER'S RESPONSE: >PRIMARY <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE PROJECT TITLE

(48 CHARACTERS MAX):

USER'S RESPONSE: > CONSOLIDATED MAINTENANCE FACILITY < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE NAME, TITLE, AND PHONE NUMBER OF

THE ACTION OFFICER (48 CHARACTERS MAX):

USER'S RESPONSE: >BERNICE ELLIS <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ORGANIZATION TITLE

(48 CHARACTERS MAX):

USER'S RESPONSE: > DEH, FORT BOWIE < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE OBJECTIVE OF THE ANALYSIS

(48 CHARACTERS MAX):

USER'S RESPONSE: >PROVIDE 210,000 SF OF MAINTENANCE SHOPS <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE INITIAL INFORMATION

BLOCK. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSES: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: DISCUSS ALL ASSUMPTIONS FOR THIS ECONOMIC

ANALYSIS:

NEW FILE:

USER'S RESPONSE: E>I <CR>

I>PER REGULATORY GUIDELINES, A <CR>
I>DISCOUNT RATE OF 10% IS USED. <CR>
I>TRAINING IS 1% OF EQUIPMENT <CR>
I>ACQUISITION COSTS. EQUIPMENT <CR>

I>MAINTENANCE IS 4.5% OF ACQUISITION <CR>
I>COST. NEW CONSTRUCTION WILL TAKE <CR>
I>3 YEARS. EQUIPMENT LIFE IS 12 YEARS <CR>

I><CR>

E>FILE <CR>

NOTES: None.

COMPUTER'S RESPONSE: DISCUSS ALL ALTERNATIVES CONSIDERED FOR

THIS ECONOMIC ANALYSIS:

NEW FILE:

USER'S RESPONSE: E>I <CR>

I>THE FOLLOWING ALTERNATIVES WERE <CR>

I>CONSIDERED IN THIS ECONOMIC <CR>
I>ANALYSIS: NEW CONSTRUCTION: <CR>
I>CONSTRUCTION OF A CONSOLIDATED <CR>
I>MAINTENANCE FACILITY. THIS <CR>

I>ALTERNATIVE REPLACES THE EXISTING <CR>
I>VINTAGE TEMPORARY BUILDING AND <CR>

I>PROVIDES THE NECESSARY 210,000 SF OF <CR>

I>MAINTENANCE SPACE. STATUS QUO <CR>
I>(MODIFIED): UPGRADE THE EXISTING <CR>
I>FACILITIES. CURRENTLY, 28 SEPARATE <CR>
I>DISPERSED FACILITIES EXIST, SPREAD <CR>

I>OVER A 5-MILE RADIUS. THESE <CR>
I>FACILITIES WILL BE MODIFIED TO <CR>
I>PROVIDED THE NECESSARY MAINTENANCE <CR>

USER'S RESPONSE: I>SPACE. <CR>

erre deservation recession represent representation and the

(Continued) I><CR>

E>FILE <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE PERIOD OF ANALYSIS

(60 YEARS MAX):

USER'S RESPONSE:

>25 <CR>

NOTES:

None.

COMPUTER'S RESPONSE:

ENTER THE START YEAR OF THE ANALYSIS

(4 CHARACTERS REQUIRED):

USER'S RESPONSE:

>1989 <CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE BASE YEAR OF THE ANALYSIS

(<CR> TO DEFAULT TO THE START YEAR):

USER'S RESPONSE:

><u><CR></u>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE DISCOUNT RATE

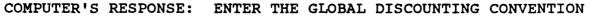
(<CR> TO DEFAULT TO 10%):

USER'S RESPONSE:

><<u>CR></u>

NOTES:

1989 is accepted as the base year.



(<CR> TO DEFAULT TO 2): (1 = BEGINNING OF

YEAR, 2 = MIDDLE OF YEAR, 3 = END OF YEAR)

USER'S RESPONSE: ><<u>CR></u>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO ADD A DIFFERENTIAL INFLATION

INDEX (Y/N)?

USER'S RESPONSE: ><u>N <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO ADD A RESIDUAL SCHEDULE

(Y/N)?

USER'S RESPONSE: ><u>N <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ANALYSIS TYPE PRIMARY OR

SECONDARY (P/S):

USER'S RESPONSE: >P <CR>

NOTES: None.

COMPUTER'S RESPONSE: PLEASE SELECT ALTERNATIVE COST INPUT

METHOD:

1. AS ENTERED (DEFAULT)

2. IN THOUSANDS OF DOLLARS (\$1 = \$1,000)

3. IN MILLIONS OF DOLLARS (\$1 = 1,000,000)

PLEASE ENTER CHOICE:

USER'S RESPONSE: ><u><CR></u>

NOTES: None.



COMPUTER'S RESPONSE: THIS COMPLETES THE DATA INFORMATION BLOCK.

ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE:

>A <CR>

NOTES:

None.

COMPUTER'S RESPONSE: THIS IS THE PRESENT (STATUS QUO)

ALTERNATIVE IN THE PRIMARY ANALYSIS. ENTER

THE NAME OF ALTERNATIVE 1 (20 CHARACTERS

MAX):

USER'S RESPONSE:

>UPGRADE STATUS QUO <CR>

NOTES:

In a primary analysis, the first

alternative is the status quo situation.

COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF ALTERNATIVE 1

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE:

>MODIFY AND UPGRADE EXISTING FACILITIES <CR>

><CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNATIVE 1

(<CR> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE:

><CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 1

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE:

>INITIAL <CR>

>UPGRADE <CR>

><CR>

NOTES:

None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >2\*4823675 23\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 2

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > EQUIPMENT < CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 2

(10 CHARACTERS PER LINE MAX):

USER'S RESPONSE: >3540684 10\*0 3540684 13\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 3

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >TRAINING <CR>

><<u>CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >25000 24\*0 < CR>

NOTES: None.

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COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >ANNUAL <CR>

>M&R <CR>

><u><CR></u>



COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 4

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >4\*62960 21\*251835 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 5

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >ANNUAL <CR>

>UTILITIES <CR>

><<u>CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 5

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >25\*178012 < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 6

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > PERSONNEL < CR>

>COST <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 6

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >25\*9301600 <CR>

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 7

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MHE <CR>

>FUEL <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE 7

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >25\*5000 <CR>

None. NOTES:

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 8

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >DEPOT <CR>

>TRANSPORT <CR>

>COST <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 8

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >25\*103443 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 9

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >VEHICLE <CR>

>USAGE <CR>

><CR>

NOTES: None.



COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 9

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >25\*26440 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 10

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > EQUIPMENT < CR>

>MAINTENANCE <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 10

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 24\*297283 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 11

(3 LINES OF 12 CHARACTERS MAK):

USER'S RESPONSE: ><CR>

NOTES: Alternative 1 has only 10 expense items.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION

(<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF EXPENSE

ITEMS. ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE

(RESIDUAL) VALUE (Y/N)?

USER'S RESPONSE: >N <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS FOR ALTERNATIVE 1

THAT ARE RECURRING COSTS:

USER'S RESPONSE: >4 5 6 7 8 9 10 <CR>

NOTES: All cost in the status quo alternative

must be classified as recurring costs or

refurbishment costs.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS FOR ALTERNATIVE 1

THAT ARE REFURBISHMENT COSTS:

USER'S RESPONSE: >1 2 3 <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE CATEGORIZATION OF

EXPENSE ITEMS.

ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESPONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS IS A PROPOSED ALTERNATIVE IN THE

PRIMARY ANALYSIS.

ENTER THE NAME OF ALTERNATIVE 2

(20 CHARACTERS MAX):

USER'S RESPONSE: > NEW CONSTRUCTION < CR>

NOTES: In a primary analysis, the second and

succeeding alternatives are proposed

alternatives.



COMPUTER'S RESPONSE: ENTER THE DESCRIPTIVE TITLE OF

ALTERNATIVE 2

(2 LINES OF 48 CHARACTERS MAX):

USER'S RESPONSE: >CONSTRUCTION OF A CONSOLIDATED <CR>

>MAINTENANCE FACILITY <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE ECONOMIC LIFE OF ALTERNATIVE 2

(<CR> TO DEFAULT TO PERIOD OF ANALYSIS):

USER'S RESPONSE: >25 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 1

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > INITIAL < CR>

>CONSTRUCTION <CR>

>COST <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 1

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >3\*9000000 22\*0 < CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 2

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > EQUIPMENT < CR>

><CR>

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 2

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 2\*3123275 10\*0 2\*3123275 10\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 3

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >TRAINING <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 3

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >0 2\*25000 22\*0 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 4

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >M&R <CR>

><u>CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 4

(10 ENTRIES MAX):

USER'S RESPONSE: >3\*62960 22\*234668 < CR>



COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 5

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >ANNUAL <CR>

>UTILITIES <CR>

><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 5

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >3\*178012 22\*242030 < CR>

NOTES: None.

COMPUTER'S REPONSE: ENTER THE TITLE FOR EXPENSE ITEM 6

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > PERSONNEL < CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 6

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >3\*9301600 22\*5699175 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 7

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >MHE <CR>

>FUEL <CR>

><u><CR></u>



COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 7

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >3\*5000 22\*1800 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 8

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: >VEHICLE <CR>

>USAGE <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 8

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >3\*26440 22\*14730 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE TITLE FOR EXPENSE ITEM 9

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: > EQUIPMENT < CR>

>MAINTENANCE <CR>

><u><CR></u>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE COSTS FOR EXPENSE ITEM 9

(10 ENTRIES PER LINE MAX):

USER'S RESPONSE: >3\*297283 22\*312570 <CR>



COMPUTER'S RESPONSE: ENTER THE TITLE OF EXPENSE ITEM 10

(3 LINES OF 12 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: Alternative 2 has only 9 expense items.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

DIFFERENTIAL INFLATION INDEX

(<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEM NUMBER TO ASSIGN A

SPECIAL DISCOUNTING CONVENTION

(<CR> TO EXIT):

USER'S RESPONSE: ><CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF

EXPENSE ITEMS. ENTER ACCEPT/CHANGE/PRINT

(A/C/P):

USER'S RESPONSE: ><u>A <CR></u>

NOTES: None.

COMPUTER'S RESPONSE: DO YOU WISH TO INCLUDE A SALVAGE

(RESIDUAL) VALUE (Y/N)?

USER'S RESPONSE: ><u>Y <CR></u>



COMPUTER'S RESPONSE: SELECT:

1) ONE TIME (AT THE END OF THE PERIOD

OF ANALYSIS)

2) USE RESIDUAL SCHEDULE

USER'S RESPONSE: >1 <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE SALVAGE VALUE:

USER'S RESPONSE: ><u>17453984\_<CR></u>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE IDENTIFICATION OF

RESIDUAL INFORMATION

ENTER ACCEPT/CHANGE/PRINT (A/C/P):

USER'S RESONSE: >A <CR>

NOTES: None.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS FOR ALTERNATIVE 2

THAT ARE RECURRING COSTS:

USER'S RESPONSE: >4 5 6 7 8 9 <CR>

NOTES: In a proposed alternative, all costs must

be classified as recurring, investment, inherited assets, or replaced assets.

COMPUTER'S RESPONSE: ENTER THE EXPENSE ITEMS FOR ALTERNATIVE 2

THAT ARE INVESTMENT COSTS:

USER'S RESPONSE: >1 2 3 < CR>

NOTES: None.

COMPUTER'S RESPONSE: THIS COMPLETES THE CATEGORIZATION OF

EXPENSE ITEMS. ENTER ACCEPT/CHANGE/PRINT

(A/C/P):

USER'S RESPONSE:

><u>A <CR></u>

NOTES:

This prompt appears when all expense

items are classified.

COMPUTER'S RESPONSE:

THIS COMPLETES THE DEFINITION OF

ALTERNATIVE 2. ENTER ACCEPT/CHANGE/

PRINT (A/C/P):

USER'S RESPONSE:

>A <CR>

NOTES:

None.

COMPUTER'S RESPONSE:

THIS IS A PROPOSED ALTERNATIVE IN THE

PRIMARY ANALYSIS. ENTER THE NAME OF

ALTERNATIVE 3 (20 CHARACTERS MAX):

USER'S RESPONSE:

><u><CR></u>

NOTES:

This has only 2 alternatives.

COMPUTER'S RESPONSE:

THIS COMPLETES THE ALTERNATIVE

INFORMATION BLOCK. ENTER ACCEPT/

CHANGE/PRINT/REDO (A/C/P/R):

USER'S RESPONSE:

><u>A <CR></u>

NOTES:

None.

COMPUTER'S RESPONSE:

DISCUSS ALL SOURCES AND DERIVATIONS OF

YOUR COSTS AND BENEFITS FOR THIS ECONOMIC

ANALYSIS:

NEW FILE:

USER'S RESPONSE:

E><u>I <CR></u>

I>STATUS QUO: INITIAL UPGRADE COSTS <CR>

I>WERE ESTIMATED BASED ON \$50.00 <CR>

I>PER SQUARE FOOT. MAINTENANCE AND <CR>

I>REPAIR WAS ESTIMATED AT \$1.31 PER <CR>

I>SQUARE FOOT. UTILITIES ESTIMATES <CR>

I>WERE OBTAINED FROM DA FACILITIES <CR>

I>ENGINEERING AND HOUSING ANNUAL <CR>

I>SUMMARY OF OPERATIONS, THE FACTOR <CR>

I>WAS \$.92 PER SQ. FT. PERSONNEL <CR>

I>COSTS WERE ESTIMATED AS FOLLOWS:

I>\_<CR>

 $I > $24,047.00 \times 283 \text{ EMPLOYEES} = $6,805,301 < CR >$ 

 $I > $32,062.00 \times 50 \text{ CONTRACTORS} = $1,603,100 < CR >$ 

I> OVERTIME = \$ 893,199 <CR>

 $I > \underline{TOTAL} = \$9,301,600 < CR >$ 

I> < CR>

I>\_<CR>

I>FUEL COSTS WERE ESTIMATED AT \$.84 PER <CR>

I>GALLON CONSUMED. VEHICLE USAGE COSTS <CR>

I>ARE BASED ON HISTORICAL DATA. NEW <CR>

I>CONSTRUCTION: INITIAL CONSTRUCTION <CR>

I>COST DATA WAS OBTAINED FROM 415-17. <CR>

I>PERSONNEL COSTS WERE DETERMINED BY <CR>

I>USING AN AVERAGE ANNUAL SALARY OF <CR>

I><u><CR></u>

I > 24,047.15 XC 237 EMPLOYEES = \$5,699,175 < CR >

I><u><CR></u>

I>MAINTENANCE AND REPAIR WAS ESTIMATED <CR>

I>AT \$1.12 PER SQ. FT. UTILITIES COSTS <CR>

I>WERE ESTIMATED AT \$1.15 PER SQ. FT. <CR>

I>VEHICLE USAGE WAS ESTIMATED TO BE 56% <CR>

I>LESS THAN STATUS QUO. FUEL COSTS <CR>

I>WERE ESTIMATED AT \$0.84 PER GALLON <CR>

I>CONSUMED. <CR>

I><u><CR></u>

I>>FILE <CR>

NOTES:

None.

COMPUTER'S RESPONSE:

ENTER THE ALTERNATIVE NUMBERS FOR GRAPH

NUMBER 1 (<CR> TO EXIT):

USER'S RESPONSE:

><CR>

NOTES:

The analyst did not want a graph.



COMPUTER'S RESPONSE: ENTER THE TITLE OF SENSITIVITY ANALYSIS 1

(60 CHARACTERS MAX):

USER'S RESPONSE: ><CR>

NOTES: The analyst did not want a sensitivity

analysis.

COMPUTER'S RESPONSE: DISCUSS ALL RESULTS AND RECOMMENDATIONS

FOR THIS ECONOMIC ANALYSIS:

NEW FILE:

USER'S RESPONSE: E>I <CR>

I>THE NEW CONSTRUCTION ALTERNATIVE <CR>

I>WAS FOUND TO BE THE MOST <CR>

I>ECONOMICAL OVER THE 25-YEAR PERIOD <CR>
I>OF ANALYSIS. THIS ALTERNATIVE IS <CR>

I>RECOMMENDED TO PROVIDE THE <CR>
I>NECESSARY 210,000 SF OF <CR>
I>MAINTENANCE SPACE TO ENSURE <CR>

I>MISSION TRAINING AND READINESS. <CR>

I><<u>CR></u>

E>FILE <CR>

NOTES: None.

COMPUTER'S RESPONSE: YOUR PRIMARY INPUT FILE HAS BEEN SAVED.

DO YOU WISH TO GENERATE ECONOMIC ANAYSIS

REPORTS (Y/N)?

USER'S RESPONSE: >Y <CR>



### CHAPTER 7 FILE INPUT MODE



#### 7.0 FILE INPUT MODE

7.1 Introduction: This chapter is for analysts who choose to create their input file(s) using the text editor/CMS commands discussed in Chapter 4. This chapter presents the details of required input for performing an EA. Instructions for actually entering the file, whether by a DD Form 1391 Processor System user or not, are provided on pages 7-43 through 7-54. It is important that the analyst become well acquainted with the general layout of an input file.

ECONPACK is a very flexible piece of software, containing many optional features for performing EAs. The terminal prompting mode discussed in Chapter 6, while requiring little knowledge of the computer system, offers little freedom in utilizing these options. With the file input mode discussed in this chapter, the user has freedom to use any of the available options, along with the responsibility to devote more thought to the process.

For the user's convenience, a command summary is presented on the left side of the page. These summaries provide a quick reference for the commands explained in detail on that particular page.



7.2 Sample Input File: An input file created using the file input mode contains the same major blocks of information as a file created using the terminal prompting mode. However, as will be noted in the forthcoming sections, the file is begun by an \* and is ended by the command, STOP RUN.



This input file structure is demonstrated in the following ECONPACK input file configuration representations for both primary and secondary analysis.



#### ECONPACK INPUT FILE CONFIGURATION

This is a representation of the blank input file configuration. It was laid out to identify the correct sequence of information held within an input file, as well as the information required to execute the file without errors. The numbers in the left-hand margin indicate the information blocks. Asterisks denote the beginning of the file and the end of each block. Items preceded by a plus sign are not required to perform the EA.

NOTE: Input data lines are <u>limited to 72 characters (including quotes and ampersands)</u>. Ampersands may be used to indicate continuation of data on the following line. <u>NO BLANK LINES ARE ALLOWED</u>. Either a comma (",") or a space (" ") may be used as a separator/delimiter.

#### PRIMARY ANALYSIS

FN FT75F001

TOF

- I. \*
  PROJECT TITLE IS ''
  ACTION OFFICER IS ''
  ORGANIZATION IS ''
  OBJECTIVE IS ''
- III. + BEGIN DISCUSSION OF ALTERNATIVES
  + [Enter alternatives text.]
  + END DISCUSSION OF ALTERNATIVES
- IV. BEGIN DATA

  PERIOD OF ANALYSIS IS YEARS

  START YEAR IS

  BASE !EAR IS

  DISCOUNT RATE IS

  GLOBAL DISCOUNTING CONVENTION IS

  + INFLATION INDEX IS ' ' &



```
+ RESIDUAL SCHEDULE IS ' ' &
  PRIMARY ANALYSIS
  COSTS STORED IN ' ' DOLLARS
  END DATA
  BEGIN ALTERNATIVE 1
  ALTERNATIVE NAME IS
  ALTERNATIVE DESCRIPTION IS &
  ECONOMIC LIFE IS YEARS
  EXPENSE ITEM IS '::' &
  INFLATION FACTORS ARE
  DISCOUNT FACTORS ARE
+ SALVAGE VALUE IS
    or
+ RESIDUAL TYPE IS
                   (for SL, DB, and US)
+ RESIDUAL START VALUE IS
                                      (for SL, DB, and US)
+ RESIDUAL LIFE IS YEARS (for SL and DB)
+ RESIDUAL BEGINS IN (for SL and DB)
                       (for DB)
+ RESIDUAL RATE IS
+ RESIDUAL INFLATION INDEX IS
                                (for SL, DB, and US)
+ RESIDUAL DISCOUNTING CONVENTION IS (for SL, DB, and US)
+ RECURRING COSTS ARE
+ REFURBISHMENT COSTS ARE
  END ALTERNATIVE 1
  BEGIN ALTERNATIVE
  ALTERNATIVE NAME IS ' '
  ALTERNATIVE DESCRIPTION IS &
  ECONOMIC LIFE IS
                    YEARS
  EXPENSE ITEM IS '::' &
  INFLATION FACTORS ARE
  DISCOUNT FACTORS ARE
+ SALVAGE VALUE IS
+ RESIDUAL TYPE IS (for SL, DB, and US)
+ RESIDUAL START VALUE IS
                                     (for SL, DB, and US)
+ RESIDUAL LIFE IS YEARS (for SL and DB)
+ RESIDUAL BEGINS IN
                       (for SL and DB)
+ RESIDUAL RATE IS
                       (for DB)
+ RESIDUAL INFLATION INDEX IS
                             (for SL, DB, and US)
+ RESIDUAL DISCOUNTING CONVENTION IS (for SL, DB, and US)
+ RECURRING COSTS ARE
+ INVESTMENT COSTS ARE
+ INHERITED ASSETS ARE
+ REPLACED ASSETS ARE
  END ALTERNATIVE
```

- VI. + BEGIN SOURCE/DERIVATION
  - + [Enter source/derivation text.]
  - + END SOURCE/DERIVATION
  - + \*
- VII. + BEGIN GRAPHICS
  - + PLOT ALTERNATIVES
  - + END GRAPHICS
  - + \*
- VIII. + BEGIN SENSITIVITY ANALYSIS
  - + TITLE IS ' '
  - + ALTERNATIVES ARE
  - + CHANGE
  - + LIMIT IS
  - + RANK ALTERNATIVE FIRST
  - + END SENSITIVITY ANALYSIS
  - **+**
  - IX. + BEGIN RESULTS
    - + [Enter results text.]
    - + END RESULTS
    - + \*
    - X. STOP RUN

#### SECONDARY ANALYSIS



#### FN FT75F001

TOF

- PROJECT TITLE IS ''
  ACTION OFFICER IS ''
  ORGANIZATION IS ''
  OBJECTIVE IS ''
- - \_ +
- - + END DISCUSSION OF ALTERNATIVES
  - \_\_\_.
- IV. BEGIN DATA
  PERIOD OF ANALYSIS IS YEARS
  START YEAR IS
  BASE YEAR IS
  DISCOUNT RATE IS
  GLOBAL DISCOUNTING CONVENTION IS
  - + INFLATION INDEX IS ' ' &
  - + RESIDUAL SCHEDULE IS ' ' &
    - SECONDARY ANALYSIS
      COSTS STORED IN ' ' DOLLARS
      END DATA
  - V. BEGIN ALTERNATIVE
    ALTERNATIVE NAME IS ' '
    ALTERNATIVE DESCRIPTION IS &
    ' '
    ' '
    - ECONOMIC LIFE IS YEARS EXPENSE ITEM IS '::' &
    - INFLATION FACTORS ARE DISCOUNT FACTORS ARE
    - + SALVAGE VALUE IS
      - or
    - + RESIDUAL TYPE IS (for SL, DB, and US)
    - + RESIDUAL START VALUE IS (fcr SL, DB, and US)
    - + RESIDUAL LIFE IS YEARS (for SL and DB)
    - + RESIDUAL BEGINS IN (for SL and DB)
    - + RESIDUAL RATE IS (for DB)
    - + RESIDUAL INFLATION INDEX IS (for SL, DB, and US)
    - + RESIDUAL DISCOUNTING CONVENTION IS (for SL, DB, and US) END ALTERNATIVE



- VI. + BEGIN SOURCE/DERIVATION
  - + [Enter source/derivation text.]
  - + END SOURCE/DERIVATION

\*

- VII. + BEGIN GRAPHICS
  - + PLOT ALTERNATIVES
  - + END GRAPHICS

\*

- VIII. + BEGIN SENSITIVITY ANALYSIS
  - + TITLE IS ' '
  - + ALTERNATIVES ARE
  - + CHANGE
  - + LIMIT IS
  - + RANK ALTERNATIVE FIRST
  - + END SENSITIVITY ANALYSIS

\*

- IX. + BEGIN RESULTS
  - + [Enter results text.]
  - + END RESULTS

+ \*

THE STATE SOCIES OF THE PROPERTY OF THE STATE OF THE SECOND SOCIES SOCIES OF THE SECOND SOCIE

X. STOP RUN

<u> MONOSTA INDOMINISTA SANASANA, DANABARAN MONOSTA PERPARAN PERPARAN INDAMANA PERSENA.</u>



A description of the file input blocks is represented on the following pages. It should be noted from the file input configuration displayed above, the organization of blocks is the same for primary and secondary analyses. The primary analysis, however, includes some information which is not used on a secondary analysis. Specifically, the alternatives for the a primary analysis are of two types: status quo (the present way of fulfilling an objective) and proposed (new ways of accomplishing the same objective with the possibility of a cost-saving). Further, the expense items for a primary analysis are classified into categories, as displayed below:

#### PRIMARY ANALYSIS COST CLASSIFICATIONS

Status Quo Alternative Proposed Alternative(s)

Recurring, refurbishment
Recurring, investment,
inherited assets, replaced
assets

These types of alternatives and cost classifications are explained further in various parts of this manual, but a brief mention of the unique data requirements of a primary analysis is appropriate here to alert the user to the fact that some concepts used in a primary analysis are not appropriate for a secondary analysis.



#### FILE INPUT MODE BEGINNING STATEMENT



### COMPONENT

WASHINGTON TO THE SECOND FOR THE SECOND SECOND ASSOCIATION OF THE SECOND SECONDS OF THE SECONDS

#### **EXPLANATION**

[Required; enter as shown, on a line by itself.]

This statement signals ECONPACK to begin an input file.





### FILE INPUT MODE INITIAL INFORMATION BLOCK

THE PERSONS CARREST STREET, SECRECAL PROPERTY

	BLOCK/COMPONENT		EXP	EXPLANATION	
I.	INITIAL INFORMATION		This block is a collection of information to be used in labeling reports and as a means of identifying the input files.		
	A. PROJECT TITLE IS '				
		[Required; enclose project title in single quotes; use an ampersand if more than one line is needed; limited to 48 characters.]*	Α.	The project title should describe the project under consideration.	
	в.	.1			
		[Required; enclose name, title, and phone number of action officer in single quotes; limited to 48 characters.]	В.	The action officer is the person to whom all questions about the analysis should be addressed.	
	C. ORGANIZATION IS ''				
		[Required; enclose organization title in single quotes; use an ampersand if more than one line is needed; limited to 48 characters.]	c.	The organization is the location of the project to be performed.	
	D.	OBJECTIVE IS '	1		
		[Required; enclose objective in single quotes; use an ampersand if more than one line is needed; limited to 48 characters.]	D.	The objective is a clear, concise statement of why the project is being done.	

\*The underscore is used for illustration and should not be entered in the input file.



#### BLOCK/COMPONENT

#### **EXPLANATION**

E. \*
 [Required; enter, as
 shown, on a line
 by itself.]

E. The asterisk is required to signal the end of the Initial Information Block.





### FILE INPUT MODE DISCUSSION OF ASSUMPTIONS TEXT BLOCK

### BLOCK/COMPONENT

#### **EXPLANATION**

- II. DISCUSSION OF ASSUMPTIONS TEXT (Optional)
  - A. BEGIN ASSUMPTIONS
    [Required if Discussion of Assumptions Text Block is used; enter, as shown, on a line by itself. Beginning on the next line, enter as much narrative as desired.]
    - beg Dis Ass
  - B. ASSUMPTIONS TEXT
    [Required if Discussion
    of Assumptions Text
    Block is used.]
  - C. END ASSUMPTIONS
    [Required if Discussion of Assumptions Text Block is used; enter, as shown, on a line by itself.]
  - D. \*
     [Required if Discussion
     of Assumptions Text
     Block is used; enter,
     as shown, on a line
     by itself.]

- This block allows for narrative concerning the assumptions employed in the economic analysis.
- A. This command is required to signal the beginning of the Discussion of Assumptions Text Block.
- B. Type in text in paragraph format. Lines may not exceed 72 characters.
- C. This command is required to signal the end of the narrative.
- D. The asterisk is required to signal the end of the Discussion of Assumptions Text Block.



### FILE INPUT MODE DISCUSSION OF ALTERNATIVES TEXT BLOCK



#### BLOCK/COMPONENT

#### **EXPLANATION**

## III. DISCUSSION OF ALTERNATIVES TEXT (Optional)

This block allows for narrative concerning the alternatives considered in the economic analysis. In addition to rationale for and description of alternatives considered, explanation may also be given for the exclusion of other conceivable alternatives (e.g., inconsistent with regulations, known to be cost ineffective, etc.).

#### A. BEGIN DISCUSSION OF ALTERNATIVES

[Required if Discussion of Alternatives Text Block is used; enter, as shown, on a line by itself. Beginning on the next line, enter as much narrative as desired.]

A. This statement is required to signal the beginning of Discussion of Alternatives Text Block.



#### B. ALTERNATIVES TEXT

[Required if Discussion of Alternatives Text Block is used.]

B. Type in the text in paragraph format. Lines may not exceed 72 characters.

#### C. END DISCUSSION OF ALTERNATIVES

[Required if Discussion of Alternatives Text Block is used; enter, as shown, on a line by itself.]

C. The statement is required required to signal the end of the narrative.

D. \*

[Required; enter as shown, on a line by itself.]

D. The asterisk is required to signal the end of the Discussion of Alternatives Text Block.





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### FILE INPUT MODE DATA INFORMATION BLOCK

	BLC	CK/COMPONENT	EXP	LANATION		
IV.	DAT	DATA INFORMATION		The block consists of information relating to the project. Note that additional information relating to specific alternatives is entered in the next block.		
	Α.	BEGIN DATA [Required; enter as shown, on a line by itself.]	Α.	This command is required to signal the beginning of the Data Information Block.		
	в.	PERIOD OF ANALYSIS IS YEARS				
		[Required; fill in the the blank with the number of years in period of analysis; limited to two digits.]	В.	Period of analysis is the time, in years, from the beginning of the start year, for which compilations of alternative costs are included.		
	c.	START YEAR IS [Required; fill in the blank with the start year, 4 digits are required.]	c.	The start year is the year in which costs are initially incurred.		
	D.	BASE YEAR IS [Required; fill in the blank with the base year; 4 digits are required.]	D.	The base year is the reference point in time for present value calculations. All costs are converted to present value amounts as of the beginning of the base		



year.



#### BLOCK/COMPONENT

E. DISCOUNT RATE IS ---[Required; fill in the blank with the discount rate (in percentage terms); limited to 4 characters, including decimal.]

#### **EXAMPLES:**

Enter 10 percent as 10. Enter 8.75 percent as 8.75.

#### EXPLANATION

E. The DISCOUNT RATE IS statement indicates the discount rate which will be used in present value calculations. Military Construction, Army (MCA) and Family Housing (AFH) have traditionally used a fixed discount rate of 10% to compute net present value.

When the standard 10% rate is used, the analysis is performed in constant dollar terms (i.e., allowance is made only for differential inflation, not for general inflation). Application of the discount rate in lease situations has been altered.

Users should consult the OCE Economic Briefs in the ECONPACK HELP Facility for current information on the discount rate in lease situations.





#### BLOCK/COMPONENT

#### **EXPLANATION**

F. RESIDUAL SCHEDULE -- IS '---- ' & \*
[Enter residual
schedule values.]

[Optional; is used, fill in the first blank with integer denoting the number of the residual schedule. (ECONPACK allows up to 10 residual schedules. Residual schedules must be numbered sequentially.) Fill in the second blank with the title of the residual schedule, enclosed in single quotes (limited to 20 characters); on the next line(s), enter a residual schedule value, in decimal terms, for each year in the period of analysis.]

F. A residual schedule is a series of residual values, one for each year in the period of analysis.

G. GLOBAL DISCOUNTING CONVENTION IS --

[Required; fill in the blank with an integer corresponding to the appropriate discounting convention.]

G. This feature allows the user to establish a global discounting convention for all expense items. Discounting conventions are: beginning-of year (denoted by the integer 1), middle-of-year (denoted by the integer 2), and end-of-year (denoted by the integer 3).

\* Ampersands may be used to indicate continuation of data on the following line.





#### **BLOCK/COMPONENT**

#### **EXPLANATION**

H. INFLATION INDEX -- IS '---- ' &
 [Enter inflation index
 values.]

[Optional; if used, fill in the first blank with an integer denoting the number of the inflation index. (ECONPACK allows up to 10 inflation indexes.) Fill in the second blank with the title of the inflation index, enclosed in single quotes (limited to 20 characters); on the next line(s), enter
the inflation index values in decimal terms (one value for each year in the
period of analysis).]

H. An inflation index allows the user to assign an expense item an inflation rate different from the inflation rate expected for the general economy.



#### BLOCK/COMPONENT

I. ----- ANALYSIS
 [Required; fill in
 the blank with the
 word PRIMARY or
 SECONDARY.]

#### **EXPLANATION**

I. The economic analysis must be specified as either PRIMARY or SECONDARY. A PRIMARY analysis is used if the objective is currently being met, but the possibility of a costreducing alternative means of meeting the objective is under consideration. In this case, the proposed new alternative is compared to the status quo alternative to determine if cost-savings would result from implementation of the proposed new alternative.

A SECONDARY analysis is used if the objective is not currently being met. In this case, the various alternative means of meeting the objective are compared on the basis of net present value of costs.





#### BLOCK/COMPONENT

#### **EXPLANATION**

- J. COSTS STORED IN '----- ' DOLLARS
  - [Required; fill in the blank with word or words denoting what \$1 equals.]
- K. END DATA
   [Required; enter,
   as shown, on a line
   by itself.]
- L. \*
   [Required; enter,
   as shown on a line
   by itself.]

- J. Enter one of the following
   words/phrases:
  - 1. actual 2. thousands of
  - 3. millions of
- K. This command is required to signal the end of the data information.
- L. The asterisk is required to signal the end of the Data Information Block.



### FILE INPUT MODE ALTERNATIVE INFORMATION BLOCK

#### BLOCK/COMPONENT

#### **EXPLANATION**

#### V. ALTERNATIVE INFORMATION

The Alternative Information Block is used to input information describing the various means by which an objective may be reached. Each alternative "sub-block" represents an alternative means of meeting the objective. ECONPACK allows up to 20 alternatives per analysis.

- A. BEGIN ALTERNATIVE 1 [Required; enter, as shown, on a line by itself.]
- A. Each alternative description starts with BEGIN ALTERNATIVE\_\_\_. In a PRIMARY analysis, Alternative 1 is the status quo alterative (i.e., the current means of meeting the objective). This is significant because the classification of costs for the status quo alternative differs from the classification of costs for the proposed new alternatives.
- B. ALTERNATIVE NAME IS '---- '

[Required, fill in the blank with the alternative name, enclosed in single quotes; limited to 20 characters.]

- B. The alternative name is a short description of the alternative.
- C. ALTERNATIVE DESCRIPTION IS '----' &

[Required; fill in blank with descriptive title, enclosed in single quotes; limited to 2 lines of 48 characters each.]

C. The descriptive title is a more elaborate description of the alternative.





#### **BLOCK/COMPONENT**

#### **EXPLANATION**

D. ECONOMIC LIFE IS -- YEARS

[Required; fill in the blank with the economic life; limited to two integers.]

- D. The economic life is the period of time over which the benefits from an alternative are expected to accrue. The economic life of an alternative may be limited by its mission life or its physical life. The economic lives for the alternatives in the analysis need not be equal.
- E. EXPENSE ITEM -- IS '---: [Enter cost for each year in the period of analysis.]

[Required; fill in the first blank with the integer corresponding to the expense item. (ECONPACK allows up to 20 expense items per alternative.) Fill in the second set of blanks with a title for the expense item; title field is limited to 3 lines of 12 characters each; the title may be entered on one line if each line is separated by a colon; fill in the third blank with a cost for each year in the period of analysis.]

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E. Expense items are costs for the alternative.
They can be negative, reflecting an influx of funds. Costs must be entered as numbers and may contain a decimal point.



#### BLOCK/COMPONENT

#### **EXPLANATION**

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#### E. EXPENSE ITEM (Continued)

#### **EXAMPLE:**

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If the period of analysis is 15 years and \$18,000,000 construction costs will be incurred in the first two years, enter 2\*18000000 13\*0.





#### BLOCK/COMPONENT

#### **EXPLANATION**

#### F. INFLATION FACTORS ARE -----

[Required, fill in the blank with integer(s) corresponding to inflation index(es) created in the Data Information Block, together with the corresponding expense item(s). If an economic analysis does not require an inflation index, fill in the blank with zero's, as explained below in EXAMPLE 3.]

F. EAs are generally done in constant dollars and no inflation is included. However, ECONPACK allows for inclusion of tables for the purpose of incorporating recognized differential inflation in the EA. The numbers correspond to the inflation indexes defined in the Data Information Block.

#### EXAMPLE 1:

For an alternative having 4 expense items, the statement, INFLATION FACTORS ARE 1 2 2 3, means that Inflation Index 1 applies to the first expense item, Index 2 to the second and third expense items, and Index 3 to the fourth expense item.

#### EXAMPLE 2:

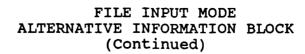
In EXAMPLE 1, an alternate shorthand method is: INFLATION FACTORS ARE 1 2\*2 3.

#### EXAMPLE 3:

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If no inflation factors were needed, the appropriate entry would be <u>INFLATION FACTORS ARE 0 0 0 0 or INFLATION FACTORS ARE 4\*0</u>.





#### BLOCK/COMPONENT

#### **EXPLANATION**

#### G. DISCOUNT FACTORS ARE --

[Required, fill in blank with integer(s) corresponding to discount factor(s) together with the corresponding expense item(s). If an economic analysis does not require that the global discounting convention be overridden, enter two's in the blank, as shown in EXAMPLE 3 below.]

#### **EXAMPLE 1:**

If there are four expense items, this statement would require that four discounting conventions be specified. The statement consists of the required identifier phrase, DISCOUNT FACTORS ARE, followed by the integers denoting the conventions. DISCOUNT FACTORS ARE 1 2 2 2 means the beginning-of-year convention applies to the first expense item in the alternative and the middle-of-year convention applies to the other three expense items.

G. This option allows the user to override the global discounting convention defined in the Data Information Block for each expense item. Available discounting conventions are:

1 = beginning-of-year

2 = middle-of-year

3 = end-of-year



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#### **BLOCK/COMPONENT**

#### **EXPLANATION**

#### **EXAMPLE 2:**

In EXAMPLE 1, an alternate shorthand method is <u>DISCOUNT</u> FACTORS ARE 1 3\*2.

#### **EXAMPLE 3:**

In EXAMPLE 1, if it was not necessary to override the global discounting convention, the appropriate entry would be <a href="DISCOUNT FACTORS ARE 2 2 2 2 0 or DISCOUNT FACTORS ARE 4\*2">DISCOUNT FACTORS ARE 4\*2</a>.

H. SALVAGE VALUE IS ---or
RESIDUAL TYPE IS ---If a salvage value is
used, fill in the blank
with salvage value.
If a residual is used,
fill in the blank with
the abbreviation for
the appropriate residual
schedule -- SL, DB, or US.]

H. The concept of salvage value can be incorporated into an EA in two general ways. Either the value can be determined determined independently and then entered explicitly as a return, or negative cost, or the user can make use of the ECONPACK feature which calculates and displays the entire depreciation schedule according to a particular form.



### BLOCK/COMPONENT

#### **EXPLANATION**

H.1. SALVAGE VALUE IS ----

H.1. By entering the SALVAGE VALUE IS statement, the amount entered is assumed to accrue at the end of the last year of the period of analysis. ECONPACK converts this amount to a present worth and subtracts the resulting value from the present value of the expense items to arrive at a net present value of the cost of the alternative.

The salvage value amount should be in undiscounted constant dollars, unless some differential inflation is presumed to be applicable. If so, the amount entered should include such differential inflation. (I.e., ECONPACK will not automatically calculate the inflation for the salvage value when using the SALVAGE VALUE IS statement.)

H.2. RESIDUAL TYPE IS --

H.2. By making use of the RESIDUAL feature, the residual value calculations can be included using a preset residual factor schedule.





#### BLOCK/COMPONENT

#### **EXPLANATION**

H.2. RESIDUAL TYPE IS (Continued)

H.2 This feature calculates what the residual value would be in each year if the project were to be terminated in that year and subtracts this amount, in present value terms, from the cumulative present value of the expenses incurred for the alternative through that year. a result, the analyst is able to see the comparison of alternatives for assumed project termination not only at the end of the period of analysis, but at the end of every year in the period of analysis as well.

There are three "sub-options" for calculating depreciation: the straight-line method (SL), the amortization declining balance method (DB), or the user's own method (US). The user may specify an inflation index to apply to the residual schedule, if applicable. A discounting convention may also be specified.

When performing an EA which includes salvage or residual values, all alternatives must use the same concept. Either all alternatives having such an occurrence should use the residual value feature, or they should all use the salvage value statement approach. program will run with a mixture of these two concepts, but the results will be somewhat misleading. The end results to the last year of





#### BLOCK/COMPONENT

#### EXPLANATION

### H.2. RESIDUAL TYPE IS -(Continued)

But for selected years during the period of analysis, a comparison of calculation results is not meaningful, since the residual feature method shows net cumulative present value <u>less</u> discounted termination residual value, whereas the salvage value statement method does not include any subtraction of asset salvage value from cost until the <u>end</u> of the period of analysis.

A tabular summary of the required and optional commands for the three different "sub-options" included in the RESIDUAL feature is illustrated in this section.

The example shows, for each item involved in the RESIDUAL feature, the required (or optional) command, the residual type(s) for which it is required, and the applicable parameters which follow the command. RESIDUAL feature commands take the general form of COMMAND followed by the parameter.



### RESIDUAL SCHEDULE OPTIONS COMMAND SUMMARY (Used for RESIDUAL TYPE Command H.2)



Command	Residual Type for Which Command Is Required	h <u>Parameter</u>
RESIDUAL TYPE IS	SL	SL
	DB	DB
	US	Integer indicating sequence of residual schedule appearing in Data Information Block. If there are three different residual schedules, for example, and the second one is to be used, the parameter would be 2.
RESIDUAL START VALUE	IS	Dub
	ST. DR. US	Enter the constant dollar

Enter the constant dollar amount of start value, in

dollars.

RESIDUAL LIFE IS -- YEARS

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SL, DB

Enter the number of years of residual schedule life.

(up to 60 years).



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### RESIDUAL SCHEDULE OPTIONS COMMAND SUMMARY (Continued)

Residual Type for Which Command Is Required

Parameter

RESIDUAL BEGINS IN ----

Command

SL, DB

Enter the year residual schedule begins. Residual in this begin year is equal to the start value. Residual factors indicating decline in residual value (depreciation) take effect in the year following this "begin" year.

RESIDUAL RATE IS ----

DB (Optional)

Enter the interest rate, in percent, upon which the amortization schedule used to derive the declining balance residual schedule is based.

**EXAMPLE:** 

Enter 8.5 percent as

8.5.

RESIDUAL INFLATION INDEX IS --

SL, DB, US (Optional) Enter the integer indicating sequence of inflation schedule user wishes to apply to residual value. (ECONPACK allows up to 10 inflation indexes.)



## RESIDUAL SCHEDULE OPTIONS COMMAND SUMMARY (Continued)



Command

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## Residual Type for Which Command Is Required

<u>Parameter</u>

### RESIDUAL DISCOUNTING CONVENTION IS --

SL, DB, US
(Optional)

Enter the integer corresponding to the appropriate discounting convention.

1 = beginning-of-year
discounting convention.
2 = middle-of-year
discounting convention.
3 = end-of-year
discounting convention.





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# FILE INPUT MODE ALTERNATIVE INFORMATION BLOCK (Continued)

#### BLOCK/COMPONENT

#### **EXPLANATION**

J. COST CLASSIFICATION:

RECURRING COSTS ARE ---[Optional for the
status quo or proposed
alternative in a
primary analysis; if
used, fill in the
blank(s) with integer(s)
corresponding to
expense item(s) which
is/are recurring cost(s).]

J. In a <u>PRIMARY</u> analysis, costs (expense items) for the status quo alternative are classified as either "recurring" or "refurbishment."
Classification as "recurring" identifies an expense item as a repeating or recurring cost (usually annually) required to continue execution of the project or program alternative.

#### **EXAMPLE:**

If the first four expense items are recurring costs, the correct data entry would be <u>RECURRING</u>
<u>COSTS ARE 1 2 3 4 or</u>
<u>RECURRING COSTS ARE 1-4.</u>

K. REFURBISHMENT COSTS ARE -----

[Optional only for status-quo alternative in a primary analysis; if used, fill the blank with integer(s) corresponding to expense item(s) which is/are refurbishment cost(s).] K. This identifies an expense item as a one-time cost (although it may take place over more than one year) for modifications, modernization, etc., required for continued operation of the status quo alternative.





#### **BLOCK/COMPONENT**

#### **EXPLANATION**

#### L. INVESTMENT COSTS ARE -----

[Optional only for proposed alternative in a primary analysis; if used, fill in the blank with integer(s) corresponding to expense item(s) which is/are investment cost(s).]

L. This identifies an expense item as an investment cost required for implementation of the proposed alternative being considered in a primary analysis.

#### M. INHERITED ASSETS ARE ----

[Optional only for proposed alternative in a primary analysis; if used, fill in the blank with integer(s) corresponding to expense item(s) which is/are inherited asset(s).]

M. This identifies an expense item as an inherited asset, which is an existing asset to be used as a part of the proposed alternative. An inherited asset cost is similar in concept to a one-time investment type cost. It is distinguished from other costs, though, in that no cash flow is associated with the item, while it still represents an expense in an indirect way.

#### N. REPLACED ASSETS ARE -----

[Optional only for proposed alternatives in a primary analysis; if used, fill in the blank with integer(s) corresponding to expense item(s) which is/are replaced asset(s).]

N. This identifies an expense item as an asset that is replaced as a part of the proposed alternative. It reflects a need that no longer exists. Because of the proposed alternative, it is "freed" for some other productive government use. An expense item that is a REPLACED ASSET must be entered as a negative cost, since the expense item describes a return to the government.



#### BLOCK/COMPONENT

#### **EXPLANATION**

- O. END ALTERNATIVE 1 [Required; enter, as shown, on a line by itself.]
- O. This command is necessary to end the first alternative.

If more than one alternative is analyzed (and this should be the case and <u>must</u> be the case in a primary analysis), the subsequent alternative sub-blocks begin with BEGIN ALTERNATIVE \_\_\_\_ and end with END ALTERNATIVE \_\_\_\_. The blanks are to be filled in with integers corresponding to the alternatives (2,3, etc.).

- P. \*
   [Required; enter as
   shown, on a line by
   itself.]
- P. The asterisk is required to end the Alternative Information Block.





#### FILE INPUT MODE SOURCE/DERIVATION OF COSTS AND BENEFITS TEXT BLOCK



#### **BLOCK/COMPONENT**

#### EXPLANATION

VI. SOURCE/DERIVATION
OF COST AND BENEFITS
TEXT (Optional)

This block allows for narrative concerning all sources and derivations of costs and benefits for a particular economic analysis.

A. BEGIN SOURCE DERIVATION

[Required if Source/Derivation of Cost and Benefits Text Block is used; enter, as shown, on a line by itself.
On the next line, begin narrative; this field is unlimited in space.]

A. This command is necessary to signal the start of the the Source/Derivation of of Costs and Benefits Text Block.

- B. TEXT
  [Required if Source/
  Derivation of Cost
  and Benefits Text
  Block is used; enter
  as shown, on a line
  by itself.]
- B. Type in text in paragraph format. Lines may not exceed 72 characters.
- C. END SOURCE DERIVATION

[Required if Source/Derivation of Cost and Benefits Text Block is used; enter as shown, on a line by itself.]

- C. This command is necessary to signal the end of the narrative.
- D. \*
   [Required if
   Source/Derivation of
   Cost and Benefits
   Text Block is used;
   enter, as shown, on
   a line by itself.]
- D. The asterisk is required to end the Source/
  Derivation of Costs and Benefits Text Block.





### FILE INPUT MODE GRAPHICS INFORMATION BLOCK

#### BLOCK/COMPONENT

#### **EXPLANATION**

### VII. GRAPHICS INFORMATION (Optional)

A. BEGIN GRAPHICS -[Required if the
Graphics Information
Block is used; enter
as shown, on a line
by itself; fill in
the blank with the
integer ordinally
denoting the graph to
be plotted.

A simple line plot of up to six alternatives may be created by utilizing the Graphics Information Block. There are no graphs produced if the block is not included in the input file. ECONPACK allows up to 4 separate graphs.

A. This command is necessary to signal the beginning of the Graphics Information Block.





## FILE INPUT MODE GRAPHICS INFORMATION BLOCK (Continued)



#### **BLOCK/COMPONENTS**

#### **EXPLANATION**

- B. PLOT ALTERNATIVES ---[Required if Graphics
  Information Block
  is used;, fill in
  the blank with
  integer(s)
  corresponding to
  the alternative(s)
  to be graphed.]
- B. Up to six alternatives per graph may be identified by number.
- C. END GRAPHICS-[Required if Graphics
  Information Block
  is used, enter, as
  shown, on a line
  by itself; fill in
  the blank with the
  same integer used in
  the corresponding
  BEGIN GRAPHICS command.]
- C. This command is necessary to signal the end of the graphics information.

If more than one graph is desired, this three-step sequence may be repeated. For example, if the analyst desired one graph of Alternatives 1-3 and one graph of Alternatives 4-6, the correct data entry would be:

BEGIN GRAPHICS 1
PLOT ALTERNATIVES 1-3
END GRAPHICS 1
BEGIN GRAPHICS 2
PLOT ALTERNATIVES 4-6
END GRAPHICS 2

- D. \*
   [Required; enter,
   as shown, on a
   line by itself.]
- D. The asterisk is necessary to signal the end of the Graphics Information Block.





### FILE INPUT MODE SENSITIVITY ANALYSIS INFORMATION BLOCK

#### **BLOCK/COMPONENT**

#### **EXPLANATION**

VIII. SENSITIVITY ANALYSIS INFORMATION (Optional)

ECONPACK has a sensitivity analysis module which allows the analyst to systematically determine the extent to which changes in specified input values produce changes in conclusions. analyst can direct the program to determine the percentage change (up or down), in a particular expense element, or group of expense elements, required to alter the ranking of the alternatives. ECONPACK allows up to 30 sensitivity analyses per EA.



# FILE INPUT MODE SENSITIVITY ANALYSIS INFORMATION BLOCK (Continued)

#### BLOCK/COMPONENT

#### **EXPLANATION**

- A. BEGIN SENSITIVITY ANALYSIS --
  - [Required if sensitivity analysis is performed; fill in the blank with the integer ordinally denoting the sensitivity anslysis to be performed.]
- A. This command is required to begin the Sensitivity Analysis Information Block.
- B. TITLE IS '---- '
  [Required if
  sensitivity analysis
  is performed; fill in
  the blank with a
  title, enclosed in
  single quotes; limited
  to 60 characters.]
- B. This statement is used to describe the sensitivity analysis to be performed.
- C. ALTERNATIVES ARE -[Required if
  sensitivity analysis
  is performed; fill in
  the blank with integers
  corresponding to the
  two alternatives to
  be involved in the
  analysis.]
- C. This statement is used to identify which two alternatives are to be involved in the sensitivity analysis.

- [Required if sensitivity analysis is performed; fill in the blank with integers indicating the alternative and expense items within that alternative to be changed; up to 2 CHANGE commands are allowed.]
- D. The CHANGE command is used to select which expense items are to be changed for the sensitivity analysis. AVOID including expense items which include negative numbers in an ECONPACK sensitivity analysis. Unusual calculation sequence and comparison logic may follow, which can be misleading.





# FILE INPUT MODE SENSITIVITY ANALYSIS INFORMATION BLOCK (Continued)

#### BLOCK/COMPONENT

#### **EXPLANATION**

#### EXAMPLE 1:

CHANGE 1 1 2 means that Expense Items 1 and 2 in Alternative 1 are to be changed in the sensitivity analysis.

#### EXAMPLE 2:

An alternative shorthand method for the entry in EXAMPLE 1 would be CHANGE 1 1-2

- E. LIMIT IS ---[Optional; if used,
  fill in the blank
  with the maximum
  upper limit for the
  sensitivity analysis,
  expressed in
  percentage terms.]
- E. This command sets the maximum positive change for the sensitivity test. For example, LIMIT IS 100 means that the expense elements involved in the sensitivity analysis (per the CHANGE command) are to be changed no more than +100% (twice the initial value). The maximum positive change is 200%; i.e, a tripling of the initial value. The negative change is automatically set at 100% (reduction to zero).

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# FILE INPUT MODE SENSITIVITY ANALYSIS INFORMATION BLOCK (Continued)



#### **BLOCK**

- [Required if sensitivity analysis is performed; fill in the blank with the integer corresponding to the alternative to be ranked first -- least cost; this should be different from the alternative currently ranked least cost.]
- G. END SENSITIVITY -[Required if the
  Sensitivity Analysis
  Information Block is
  used; fill in the
  blank with the same
  integer used in the
  corresponding BEGIN
  SENSITIVITY command.]

#### EXPLANATION

- F. This command selects the alternative which the analyst wishes to be ranked at least cost in the sensitivity test. For example, RANK ALTERNATIVE 2 indicates that the ECONPACK will check to see how much of a change in the indicated expense items will be required to result in the second alternative being least cost among those alternatives selected in the sensitivity analysis block.
- G. This command is required to signal the end of a sensitivity analysis information.



ECONPACK allows up to 30 sensitivity analyses per economic analysis. If more than one sensitivity analysis is desired, the user should repeat the steps above.

- H. \*
   [Required; enter,
   as shown, on a line
   by itself.]
- H. The asterisk is required to signal the end of the Sensitivity Analysis Information Block.



### FILE INPUT MODE MAJOR INPUT BLOCKS: RESULTS AND RECOMMENDATIONS TEXT BLOCK



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### BLOCK/COMPONENT

#### **EXPLANATION**

Text Block.

- IX. RESULTS AND RECOMMENDATIONS (Optional)
  - A. BEGIN RESULTS
    [Required if
    Results and
    Recommendations Text
    Block is used; enter,
    as shown, on a line
    by itself; on the next
    line, begin narrative;
    this field is unlimited
    in space.]
- A. This command is required to signal the beginning of the Results and Recommendations

results and recommendations.

This block is used by the analyst to

discuss, in narrative format, all

- B. RESULTS AND
  RECOMMENDATIONS TEXT
  [Required if Results
  and Recommendations
  Text Block is used.]
- B. Type in text in paragraph format. Lines may not exceed 72 characters.
- C. END RESULTS
   [Required if Results
   and Recommendations
   Text Block is used;
   enter, as shown, on a
   line by itself.]
- C. This command is required to signal the end of the results and recommendations narrative.
- D. \*
   [Required if Results
   and Fecommendations
   Text Block is used;
   enter, as shown, on a
   line by itself.]
- D. The asterisk is necessary to signal the end of the Results and Recommendations Text Block



### FILE INPUT MODE ENDING COMMAND



#### COMPONENT

### **EXPLANATION**

- A. STOP RUN [Required; enter, as shown, on a line by itself.]
- A. This command is necessary to signal the end of the input file.





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- 7.3 Creating An Input File and Report File Using the File Input Mode: Specific instructions for creating an input file and report file using the file input mode are given in this section. Briefly, the user must perform the following tasks:
  - TASK 1: Access ECONPACK (or access the DD Form 1391 Processor System).
  - TASK 2: Access the CMS environment from the MAIN ECONPACK MENU or respond to the question regarding the Huntsville Division bulletin amd acquire a Time-of-Day prompt.
  - TASK 3: Enter the edit mode by entering <u>EDIT (fn) FT75F001</u> <<u>CR></u> at a C> or Time-of-Day>.
  - TASK 4: Enter the input mode by entering <u>I <CR></u> at an E prompt.
  - TASK 5: Create your input file.
  - TASK 6: Exit the input mode by entering <<u>CR></u> at the last I prompt.
  - TASK 7: File the input file created in TASK 6 by entering FILE <CR> at an E prompt.
  - TASK 8: Return to the MAIN ECONPACK MENU by entering ECONPACK <CR> at a C> or Time-of-Day>.
  - TASK 9: [This task is not necessary for non-DD Form 1391 Processor System users.] Enter your System IDENT word.
  - TASK 10: Check the manual input file for errors by accessing Option 5 from the MAIN ECONPACK MENU.
  - TASK 11: Generate economic analysis reports by entering Option 3 from the MAIN ECONPACK MENU.
  - TASK 12: Print desired economic analysis reports.
  - TASK 13: Return to MAIN ECONPACK MENU.
  - TASK 14: Exit ECONPACK.
  - TASK 15: Log off the PAX System.



COMPUTER/USER INTERACTION

**EXPLANATION** 

TASK 1: ACCESS ECONPACK (OR ACCESS THE DD FORM 1391 PROCESSOR SYSTEM).

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. CAPCES
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PAX>1 <CR>

or

PAX SYSTEM MENU

- 1. CAPCES
- 2. PAXMAIL
- 3. DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PAX>3 <CR>

System transfers the user from the PAX System to the ECONPACK System.

System transfers the user from the PAX System to the DD Form 1391 Processor System



NOTE: It is recommended that users with DD Form 1391 Processor System on their PAX System Menu use the second method. This allows for an easier transfer of the ECONPACK report file to the DD Form 1391 at Block SR1.

It is also suggested that users with both ECONPACK and DD Form 1391 Processor System on their PAX System Menus move all files to the DD Form 1391 Processor and request that ECONPACK be removed from their PAX System Menu. This will reduce confusion, time, and cost.





#### COMPUTER/USER INTERACTION

#### **EXPLANATION**

TASK 2: ACCESS THE CMS ENVIRONMENT OR RESPOND TO THE QUESTION REGARDING THE HUNTSVILLE DIVISION BULLETIN AND ACQUIRE A TIME-OF-DAY PROMPT.

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

ENTER DESIRED OPTION>8 <CR>

or

WOULD YOU LIKE TO READ HUNTSVILLE DIV. BULLETINS LAST UPDATED:

DATE: 10/16/87 TIME: 08:50

(Y/N)>N < CR>

TYPE HELP FOR AN EXPLANATION OF THE COMMANDS AVAILABLE TO YOU.

07:18:47>\_\_\_\_

User is transferred to a C prompt or a Time-of-Day prompt where a file can be created/changed without the use of the terminal prompting sequence.



<u>Creating An Input File and Report</u> (Conti	: File Using the File Input Mode .nued)
COMPUTER/USER INTERACTION	EXPLANATION
TASK 3: ENTER THE EDIT MODE.	
C>EDIT [filename FT75F001] <cr></cr>	User enters the edit mode to create a new file or edit an existing file.
or	
14:23:20>EDIT [filename FT75F001]	<cr></cr>
	[NOTE: Just as in the terminal prompting mode, the filename may be any combination of 8 or fewer characters.]
TASK 4: ENTER THE INPUT MODE.	
NEW FILE: E> <u>I <cr></cr></u>	System transfers user to input mode and gives an I>.
The computer/user interaction is the same regardless of how ECONPACK was accessed.	
TASK 5: CREATE AN INPUT FILE AS	DESCRIBED IN THIS CHAPTER.
!> <cr></cr>	User creates desired file. Data entered at an I> will be taken as text.
· <cr></cr>	
The computer/user interaction is same regardless of how ECONPACK was accessed.	the



COMPUTER/USER INTERACTION

**EXPLANATION** 

TASK 6: EXIT THE INPUT MODE.

I><CR>E>

A <<u>CR</u>> entered at an I> returns user to the edit mode.

The computer/user interaction is the same regardless of how ECONPACK was accessed.

TASK 7: FILE THE INPUT FILE JUST CREATED.

E>FILE <CR>

Causes the temporary file to become a permanent file on the user's ECONPACK permanent disk and returns the user to a C> or to a Time-of-Day>.

TASK 8: RETURN TO MAIN ECONPACK MENU.

C>ECONPACK <CR>

or

15:20:10>ECONPACK <CR>

System transfers user to the MAIN ECONPACK MENU.

Non-DD Form 1391 System Processor System users proceed to TASK 10.



COMPUTER/USER INTERACTION

**EXPLANATION** 

TASK 9: ENTER SYSTEM IDENT WORD.

IDENTIFICATION:> [Enter your System IDENT word.]

YOU HAVE JUST ENTERED ECONPACK AS:

After IDENT word is entered, system transfers user to the MAIN ECONPACK MENU.





COMPUTER/USER INTERACTION

**EXPLANATION** 

reports.

System indicates ECONPACK

reports may be generated

or prints error messages.

must be corrected prior

If errors exist, they

to generating ECONPACK

TASK 10: CHECK THE MANUAL INPUT FILE FOR ERRORS.

\*\*\*\* MAIN ECONPACK MENU\*\*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

ENTER DESIRED OPTION>5 <CR>

PLEASE ENTER YOUR INPUT
FILENAME>[Enter your input filename.] <CR>

or

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

ENTER DESIRED OPTIONS>5 <CR>

PLEASE ENTER YOUR INPUT
FILENAME>[Enter your input filename.] <CR>





#### COMPUTER/USER INTERACTION

#### EXPLANATION

#### TASK 11: GENERATE ECONOMIC ANALYSIS REPORTS.

#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

ENTER DESIRED OPTION>3 <CR>

System prompts user to select an option number.

3 entered at the option prompt initiates the generation of economic analysis reports. 9 entered at the option prompt returns the user to the PAX System or, if within the DD Form 1391 Processor System, 8 will return user to a Time-of-Day prompt.

#### \*\*\* MAIN ECONPACK MENU \*\*\*

or

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

ENTER DESIRED OPTIONS>3 <CR>





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Creating	An Input File and Repe	ort File Using ntinued)	the File	Input	Mode
COMPUTER/	USER INTERACTION	EXPLA	NATION		
TASK 12:	PRINT DESIRED ECONOM	IC ANALYSIS RE	PORTS.		

#### AVAILABLE ECONPACK REPORTS

- 1. PRINT ALL REPORTS
- 2. PRINT EXECUTIVE SUMMARY OF ANALYSIS
- 3. PRINT COMPARISON PLOTS
- 4. PRINT LIFE CYCLE COST COMPARISON REPORTS
- 5. PRINT SENSITIVITY ANALYSIS REPORTS
- 6. PRINT INPUT LISTINGS
- 7. RETURN TO MAIN ECONPACK MENU

ENMED	претпро	OPTIONS>	
ENIEK	DESTRED	OPITONS>_	<del></del>

User enters integer(s) corresponding to desired report(s), followed by a <CR>.

#### EXAMPLE:

If user wanted the executive summary report and the comparison plot printed, the correct entry would be:>2-3 <CR>.

[Enter option number corresponding to desired report.] <CR>

Computer/user interaction is the same regardless of how ECONPACK was accessed.

#### **EXAMPLE:**

If user wanted the executive summary report and the comparison plot printed, the correct entry would be:>2-3 <CR>.



TASK 13: RETURN TO MAIN ECONPACK MENU.

#### AVAILABLE ECONPACK REPORTS

- 1. PRINT ALL REPORTS
- 2. PRINT EXECUTIVE SUMMARY SUMMARY OF ANALYSIS
- 3. PRINT COMPARISON PLOTS
- 4. PRINT LIFE CYCLE COST COMPARISON REPORTS
- 5. PRINT SENSITIVITY ANALYSIS REPORTS
- 6. PRINT INPUT LISTINGS
- 7. RETURN TO MAIN ECONPACK MENU

ENTER DESIRED OPTIONS>7 <CR>

Computer/user interaction is the same regardless of how ECONPACK was accessed.

System presents this menu after printing reports requested in TASK 12. User may select another option or exit to the MAIN ECONPACK MENU.



#### TASK 14: EXIT ECONPACK.

### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. CMS
- 9. EXIT TO PAX MENU

ENTER DESIRED OPTION>9 <CR>

or

System transfers user to PAX System Menu or DD Form 1391 Processor System. User may execute another MAIN ECONPACK MENU option at this prompt if so desired.



#### \*\*\* MAIN ECONPACK MENU \*\*\*

- 1. CREATE AN INPUT FILE
- 2. ADD TO OR CHANGE AN EXISTING INPUT FILE
- 3. GENERATE ECONOMIC ANALYSIS REPORTS
- 4. PRINT ECONOMIC ANALYSIS REPORTS
- 5. CHECK MANUAL INPUT FILE FOR ERRORS
- 6. FILE MAINTENANCE
- 7. HELP FACILITY
- 8. EXIT TO DD1391 PROCESSOR SYSTEM

ENTER DESIRED OPTION>8 < CR>

\_\_\_\_\_\_

COMPUTER/USER INTERACTION

**EXPLANATION** 

TASK 15: LOG OFF THE PAX SYSTEM.

#### PAX SYSTEM MENU

1. ECONPACK

User logs off.

- 2. PAXMAIL
- DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PLEASE ENTER --- 1 THRU 5 OR LOG>LOG <CR>

### [Terminate communications connection.]

or

\*\*\* LEAVING ECONPACK \*\*\*

07:54:02>LOG <CR>

RUN FILE 3149 TO TRACK3 COPY 001 NOHOLD

PROJECT 1391

CONNECT = 00:02:28 TRU= 29.08 TIO= 3,066

#### PAX SYSTEM MENU

- 1. ECONPACK
- 2. PAXMAIL
- 3. DD1391 PROCESSOR
- 4. PRINT PAX NEWSLETTER
- 5. CHANGE PASSWORD

PLEASE ENTER ---- 1 THRU 5 OR LOG

PAX>LOG <CR>

PROJECT PAX

CONNECT = 00:00:19 TRU = 2.57 TIO = 362

LOGOFF AT 07:54:40 CDT THRUSDAY 10/08/87

PLEASE LOG IN [Terminate communications connection.]

# CHAPTER 8 TRANSFERRING A COPY OF AN ECONPACK REPORT FILE TO THE SPECIAL REQUIREMENTS PARAGRAPH 1 BLOCK IN THE DD1391 FORM

#### 8.0 TRANSFERRING A FILE

- 8.1 Introduction: This chapter contains procedures for transferring a copy of an ECONPACK report file to the Special Requirements Paragraph 1 (SR1) Block in a DD1391 Form. The procedure is explained from two vantage points: transferring the report file while at the monitor ready prompt of the DD Form 1391 Processor System and transferring the report file while within the Special Requirements Paragraph 1 Block of the DD1391 Form.
- 8.2 Transferring From the Monitor Ready Prompt of the DD Form 1391 Processor System: This section contains procedures for transferring an ECONPACK report file from the monitor ready prompt of the DD Form 1391 Processor System.

At the monitor ready prompt, the user enters the command, DD1391. The computer requests the IDENT word. After receiving this information, the computer responds with a monitor ready prompt.

### EXAMPLE EXAMPLE

14:25:05>DD1391 <CR>
ALREADY MONITORING PROCESS.

\*\*\*\*\* WELCOME TO THE DD1391 PROCESSOR!

\*\*\*\*\* VERSION 7.1 (21 FEB 8)

IDENTIFICATION: >[Enter your IDENT word.]

YOU HAVE JUST ENTERED INTO THE PROCESSOR AS:

MONITOR READY>\_\_\_\_



Use the monitor ready command, SR1, to move a copy of an ECONPACK report file to Special Requirements Paragraph 1 in a DD1391 Form.

#### **EXAMPLE:**

MONITOR READY>SR1 FORM XXXXX <CR>

PLEASE ENTER FILENAME OF ECONOMIC ANALYSIS TO BE ENTERED. [NOTE: AN ECONOMIC ANALYSIS REPORT MUST HAVE BEEN GENERATED FROM THE ECONPACK PROGRAM.] ENTER FILENAME OR <CR> TO RETURN TO THE MONITOR READY PROMPT>. [Enter input filename.]

YOUR ECONOMIC ANALYSIS WILL BE ENTERED INTO BLOCK SR1. DO YOU WISH TO CONTINUE (YES/NO)?>Y <CR>

PLEASE WAIT - THANK YOU.
NOW PROCESSING YOUR INSTRUCTION....

NOW PROCESSING YOUR INSTRUCTION....

YOUR ECONOMIC ANALYSIS REPORT FILE HAS BEEN INSERTED INTO SR1 OF FORM XXXXX.

YOUR ECONOMIC ANALYSIS INPUT FILE HAS BEEN STORED AS XXXXX ON THE ECONPACK COMMON DIRECTORY.

MONITOR	READY>		
---------	--------	--	--

Users should consult pages \_\_\_\_ to learn how to modify an ECONPACK report file once it has been entered into Special Requirements Paragraph 1.

8.3 Transferring While Within the SR1 Block: This section contains procedures for obtaining an ECONPACK report file while within the Special Requirements Paragraph 1 (SR1) Block of the DD1391 Form.



At Block SR1, the computer requests that the user enter one of a series of commands. The user will respond by entering ECON < CR > at the form editor prompt (=>).

#### **EXAMPLE:**

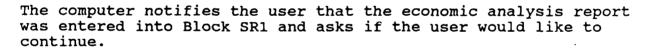
SPECIAL REQUIREMENTS PARAGRAPH 1 ENTER ONE OF THE FOLLOWING:

- 1. AN EDITOR COMMAND /SAVE,/GOTO,ETC.
- 2. THE WORD 'EDIT' TO INPUT NEW OR CHANGE EXISTING TEXT
- 3. THE WORD 'ECON' TO LOAD ECONPACK GENERATED DATA
- 4. THE WORD 'DELETE' TO ERASE ALL DATA IN THIS BLOCK
- 5. A CARRIAGE RETURN TO ADVANCE TO THE NEXT BLOCK.
- =>ECON <CR>

The computer will request that the filename of the economic analysis be entered. The user should enter the appropriate filename.

#### **EXAMPLE:**

PLEASE ENTER FILENAME OF ECONOMIC ANALYSIS TO BE ENTERED. [NOTE: AN ECONOMIC ANALYSIS REPORT MUST HAVE BEEN GENERATED FROM THE ECONPACK PROGRAM.] ENTER FILENAME OR <CR> TO RETURN TO THE SR1 MENU.>FILE <CR>



#### **EXAMPLE:**

YOUR ECONOMIC ANALYSIS WILL BE ENTERED INTO BLOCK SR1. DO YOU WISH TO CONTINUE (YES/NO)?>Y <CR>

The computer again prompts for one of a series of commands. Assuming the user is ready to log off, /SAVE <CR> should be entered.

#### **EXAMPLE:**

SPECIAL REQUIREMENTS PARAGRAPH 2 ENTER ONE OF THE FOLLOWING:

- 1. AN EDITOR COMMAND /SAVE,/GOTO,ETC.
- 2. THE WORD 'EDIT' TO INPUT NEW OR CHANGE EXISTING TEXT
- 3. A CARRIAGE RETURN TO ADVANCE TO THE NEXT BLOCK.
- =>/SAVE <CR>



The computer responds by displaying the name, office, and phone number of the form preparer, asking if a change in any of these three items is desired, processing the SAVE instruction, notifying the user that the form was saved, and returning the user to a monitor ready prompt.

#### **EXAMPLE:**

PREPARED BY = XXX, XXX, XXX

DO YOU WANT TO CHANGE NAME, OFFICE, OR PHONE? (YES/NO) =>N <CR>
PLEASE WAIT ... - THANK YOU.

NOW PROCESSING YOUR INSTRUCTION....

NOW PROCESSING YOUR INSTRUCTION....

NOW PROCESSING YOUR INSTRUCTION....

YOUR ECONOMIC ANALYSIS REPORT FILE HAS BEEN INSERTED INTO SR1 OF FORM XXXXX.

YOUR ECONOMIC ANALYSIS INPUT FILE HAS BEEN STORED AS XXXXX ON THE ECONPACK COMMON DIRECTORY.

FORM XXXXX SAVED.

MONITOR READY >\_\_\_\_

[When the user enters the command, ECON, a copy of the ECONPACK input file will be placed on the Common Directory available to all users, a copy of the report file will be placed into SR1 on the recalled DD1391 Form, and the input and report files will be erased from the user's DD1391 Form permanent disk.]

#### APPENDIX A

#### GLOSSARY

ALTERNATIVE: A course of action, means, or methods by which an objective may be achieved.

ALTERNATIVE RANKING: The end result of ECONPACK's economic analysis. ECONPACK ranks each alternative sequentially from lowest cost to highest cost.

ASSUMPTIONS: Explicit statements used to describe the present and future environment upon which the economic analysis is based.

BASE YEAR: The reference year for all present value calculations (costs are converted to present value amounts as of the beginning of the base year).

CONTROL PERSONAL BROSSOS TRACCIONAL PRINCES

BENEFITS: Outputs or effectiveness expected to be received or achieved over time as a result of undertaking a proposed investment. These can be quantifiable or non-quantifiable.

BENEFIT/COST RATIO (BCR): An economic indicator of efficiency, computed by dividing benefits by costs. When benefits are quantified in dollar terms, discount both the benefit stream and the cost stream to reflect the present value of future costs and benefits.

COMPOUND INTEREST: Interest which is computed on both the original principal and its accrued interest.

CONSTANT DOLLARS: An estimate is said to be in constant dollars if costs reflect the level of prices of a base year.

COST: A resource input to a project, program, or activity expressed in dollar terms. See Expense Item.

COST BENEFIT ANALYSIS: A technique for assessing the range of costs and benefits associated with a given option, usually to determine feasibility. Costs are generally in monetary terms, but benefits need not be in monetary terms.

CUMULATIVE NET PRESENT VALUE: The sum total of the discounted annual cost for the year in question and all preceding years of the project.

CURRENT DOLLARS: When prior costs are stated in current dollars, the figures given are the actual amounts paid out. When future costs are stated in current dollars, the figures given are the actual amounts expected to be paid, including any amount caused





by future price changes.

DIFFERENTIAL INFLATION: The difference in inflation between the inflation rate for the overall economy and the rate of inflation for a particular expense item which is either greater than or less than the general inflation rate.

DISCOUNTING CONVENTION: The method of discounting costs, either beginning of year, middle of year or end of year.

DISCOUNT RATE: The interest rate used to relate present and future dollars. This rate is expressed as a percentage and is used to reduce the value of future dollars in relation to present dollars to account for the time value of money.

DISCOUNTED PAYBACK PERIOD: A technique for determining the time period over which accumulated present value savings are enough to offset the total present value of investment costs of a proposed alternative to the status quo.

ECONOMIC ANALYSIS: A systematic method for quantifying the costs and/or benefits of proposed projects. Basically, it consists of seven steps: stating the objective, listing assumptions, defining alternatives, determining costs and benefits, comparing and ranking alternatives, performing a sensitivity analysis, and writing a report with recommendations.

ECONOMIC LIFE: The period of time over which the benefits from an alternative are expected to accrue. The economic life of an alternative may be limited by its mission life or physical life.

EQUIVALENT UNIFORM ANNUAL COST (EUAC): The amount of money which, if paid in equal annual installments over the life of a project, would pay for the project. That is, the discounted value of this hypothetical uniform cost stream is equal to the actual estimated present value of project costs. The alternative with the lowest uniform annual equivalent amount is the least-costly alternative.

EXPENSE ITEM: A term used by ECONPACK to represent individual expenditures (costs). Each ECONPACK alternative is composed of one or more expense items, which must be assigned a monetary value for each year of the project's period of analysis. See Cost.

HISTORICAL COST: A cost based on actual asset outlay, determined after the fact. Any method of cost determination may be used, but the sources of costs must be documented in the source derivation part of the output report.

INFLATION: A persistent rise in the general level of prices over time.



INPUT FILE: A file which lists the objective of an economic analysis, alternatives, expense items, and other data needed to perform the analysis.

INTEREST: A price (or rent) charged for the use of money.

INVESTMENT COST: One-time costs associated with acquisition of real property, nonrecurring services, nonrecurring operations, and maintenance (start-up) costs and other one-time costs. Despite their one-time nature, investment costs may extend over periods of more than one year. For military construction economic analyses, this is the project's programmed amount as identified on the DD Form 1391.

LEAD TIME: The period of elapsed time between initial funding or decision and the commencement of the economic life.

LIFE CYCLE: The time from the beginning date of the project to the end of the program/project life.

LIFE CYCLE COST: The total cost of an item over its life cycle. This includes initial investment, maintenance and repair, operations, utilities and, where applicable, disposal.

MAINTENANCE AND REPAIR COST: The total of labor, material, and other costs of performing corrective and preventive maintenance and repair on a facility and/or its systems and components.

NET PRESENT VALUE: A cumulative discounted value amount that also accounts for the discounted value of the residual amount.

NONRECURRING COST: Cost which occurs on a one-time basis; to be distinguished from annually recurring costs.

OBJECTIVE: The result the decision maker wants to attain. It is the desired end product of a program and must be stated in an unbiased way, e.g., "to house 400 additional personnel," not "to build a 400-person barracks."

OUTPUT: The products, functions, tasks, services, or capabilities which an organization exists to produce, accomplish, attain, or maintain.

PERIOD OF ANALYSIS: The time span over which the economic analysis takes place; i.e., the number of years over which the alternatives' costs are compared. (ECONPACK allows a maximum of 60 years.)

PHYSICAL LIFE: The estimated number of years that a machine, piece of equipment, or building can physically be used in accomplishing the function for which it was procured or constructed.



PRESENT VALUE: A monetary expenditure (or savings) multiplied by the discount factor. The resulting figure represents the worth of the future amount 1 pase year dollars. (The discount factor depends on both the discount rate and the period of time until the expenditure occurs.)

PRESENT VALUE OF SALVAGE: The salvage value of an alternative, discounted to represent its value in base year dollars. ECONPACK discounts the salvage value from the final year of the project to the beginning of the start year.

PRESENT WORTH: Same as present value.

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PROJECT: A major mission-oriented agency endeavor which fulfills statutory or executive requirements, and which is defined in terms of the principal actions required to achieve a significant end objective.

PROJECT LIFE: The lead time plus the economic life.

RECURRING COSTS: Expenses for personnel, material consumed in use, operating overhead, support services, and other items which recur annually in the execution of a given program or work effort.

REPORT FILE: Once an input file has been run through ECONPACK, a report file representing the results of the analysis is created.

RESIDUAL VALUE: The remaining monetary value, if any, of an alternative at a specified point in time.

SALVAGE VALUE: The remaining monetary value, if any, of a project at the end of the project life. The value may be negative (i.e., it may cost dollars to remove the item).

SAVINGS TO INVESTMENT RATIO (SIR): The ratio of discounted future cost savings (or avoidance) to the discounted investment cost necessary to effect those savings. An SIR of 1 indicates that the present value of savings is equal to the present value of investment.

SENSITIVITY ANALYSIS: A method for determining how changes in expense item costs will affect the ranking of alternatives.

START YEAR: The first year of the period of analysis.

SUNK COST: An unrecoverable past cost which was incurred before the baseline date. Because sunk costs have been irrevocably expended or committed, they have no significance in the ranking of alternatives.





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TERMINAL VALUE: The expected value of land, buildings, or equipment at the end of economic life or project life. (Same as salvage value or residual value at the end of the project life.)

TIME VALUE OF MONEY: The use of money costs money: a dollar today is worth more than a dollar tomorrow because of the interest costs related to expenditures and benefits which occur over time. Annual savings or cash inflows projected for tomorrow have present values less than their undiscounted dollar values.

TOTAL ANNUAL OUTLAYS: The sum total of all costs for a given year.

UNIFORM ANNUAL COST (UAC): See Equivalent Uniform Annual Cost.



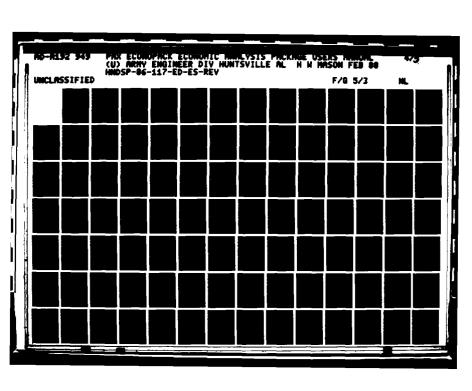
# APPENDIX B VENDOR COMMUNICATIONS SPECIFICS

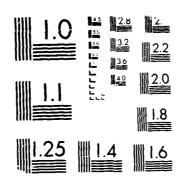
B.0 VENDOR COMMUNICATIONS SPECIFICS

- <u>B.1 General</u>: This appendix provides instructions unique to the system vendor.
- B.2 Terminal Identifiers: Before a user can "ain access to the host computer, a specific alphabetic character must be entered to indicate the type of equipment being used to access the system. This character is identified as the TERMINAL IDENTIFIER. Table B-1 lists the terminal identifier to be entered for specific types of terminals. Table B-2 lists terminal identifiers according to specific manufacturers and models. For equipment not listed in Table B-2, it is recommended the user first enter the terminal identifier "A". If that is ineffective, the identifier "E" should be entered.

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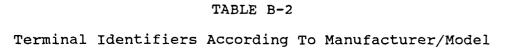
TABLE B-1
Terminal Identifiers According To Terminal Type



IDENTIFIER	CODE	SPEED	TERMINAL TYPE
A	ASCII	300 BAUD 1200 BAUD	*CRT
В	ASCII	150 BAUD	ALL TERMINALS
С	ASCII	300 BAUD	IMPACT PRINTERS
D	ASCII	100 BAUD	ALL TERMINALS
E	ASCII	300 BAUD	TERMINAL PRINTERS
F	ASCII	150 BAUD IN 300 BAUD OUT	BETA TERMINALS
G	ASCII	300 BAUD 1200 BAUD	BELT PRINTERS GE TERMINALS
I	ASCII	1200 BAUD	MATRIX PRINTERS
P (CR)	EBCD CORRESPONDENC	148 BAUD E	SELECTRIC-TYPE TERMINALS (eg. 2741)



<sup>\*</sup>The terminal identifier "A" is used for terminals not requiring a carriage return or line feed delay, such as a CRT terminal. "A" is also used for terminals with buffers, such as the Tymshare 325 and the TI 820.



TERMINAL MANUFACTURER/MODEL	<u>TI</u>	TERMINAL MANUFACTURER/MODEL	<u>TI</u>
ADDS 580, 620, 680, 880, 980, ANDERSON JACOBSON		DEC GT40, LA34, LA36, LA38, *LA120, *LS120, VT05 VT50, VT100, VT132	. А
330 830, 832 630 *860	A E	DATAMEDIA DATAPOINT 1500,2000,2100,2500 1100,3000,3300	
ANN ARBOR TERMINALS DESIGN III 200	A	DATA DATA 5000,5100,5200	A
BEEHIVE MEDICAL ELECTRONICS MINI AEE 1,2,4 SUPER BEE 2,3	Α	DIGI-LOG- 33,209,300	A
BELL SYSTEM DATASPEED 40/12 KD	A	GENERAL ELECTRIC TERMINET 300,1200	G
COMPUTER DEVICES		GEN-COM 300 HAZELLINE	A
1132,1201,1202,1203 1204,1205,1206		1200,2000	A
COMPUTEK 200,300	A	MODEL B	
CONRAC 401,408	A	IBM 2741P(	CR)
CONTROL DATA 713	A	INTERDATA CAROUSEL 300	E
COMPUTER TRANSCEIVER SYSTEMS		INCOTERM SPD 10120,20120,900	A
EXECUPORT	E	INFOTON	λ



922.			
	'ERMINAL  ANUFACTURER/MODEL	TI	TERMINAL MANUFACTURER/MODEL TI
	TT 35501 ASCISCOPE	A	TEC 400 SERIES, 1440 4012,4013,4014,4023 A
<u> </u>	EAR SIEGLER 7700,ADM-1,ADM-2		TEKTRONIC
8	ADM-3, ADM-31		4025 A
SS-SS-3	OGABAX INFORMTIQUE LX180* *LX1010 MI *2400	I A	TELETYPE 33,34
<b>3</b>	EGADATA	_	TEXAS INSTRUMENTS 720,725,733,735 743,745,763,765,771 E
	EMOREX 1240		820
	CR 260	E	ENTELKON 10 A
	796 MRON	A	TYPAGRAPH DP-30C
	8525		TYMSHARE 100,110,212,213 E 310,311 C
	4000 ERKIN-ELMER	A	125,126,225,315,316 200
	1200,1250 ESEARCH	A	440W,444,*470, *550,*1100A
7 000	TELERAY 3300,3311,3712	A	WANG LABORATORIES 220 OB A
)	AYTHEON PTS-100	A	WESTINGHOUSE 1600,1620 A
7 -	INGER		1000,1020
	30 CIENTIFIC MEASUREMENT SYSTEMS		XEROX BC100,BC200A
	1400		*When logging on to the computer using these
	ALLY *1612	A	terminals, the user must depress both the CONTROL key and the letter "R" key before entering the System User ID.

GELLA DIRECTA DIRECTO RELIGIOS, REBUTON TRANSPORTACIONAR PRESECON DEGRACO. PRESECON PROGRAMOS DIRECTOS DEGRADA

**स**्तिः **•**  <u>B.3 Additional Communication Parameters</u>: Some word processors and microcomputers require additional information in order to connect to the McDonnell-Douglas System. Listed below are some additional communication parameters.

Code - ASCII

Duplex - full

Parity - mark or none

Parity bits - 1

Word length - 7

Start bits - 1

Stop bits - 1

Baud - 300 or 1200

Modem - Many phone numbers are compatible with any 300 baud mode, 1200 baud BELL, and Vadic modems. (Check phone numbers listed in PAX

NEWSLETTERS).

End of line
(transmit to
McDonnellDouglas) -

CR

End of line
 (transmit to
 McDonnell Douglas)

CRLF (LF)

Some terminals require the use of control characters before the user enters the System User ID at the PLEASE LOG IN: prompt. The control characters are accessed by simultaneously depressing the control (CRTL) key and the alphabet key.

CRTL X - Entered for terminal transmission from paper tape, cassette, internal buffer, or disk to request that McDonnell-Douglas control the flow of terminal output with X-ON (DC-1, CTRL Q) and X-OFF (DC-3, CTRL S) to prevent data loss.

CTRL H - Initiates half duplex operation by suppressing McDonnell-Douglas echoing of input characters.

CTRL P - Provides for even parity for computer output rather than no parity.

CTRL R - Allows terminal control of received data flow with X-ON (DC-1, CTRL Q) to signal terminal ready and X-OFF (DC-3, CTRL S), to signal terminal busy.

B.4 Line Noise: Sometimes a user may have trouble with noise, i.e., random characters showing up in the print. Often the source of the noise can be very difficult to determine. Presented below are some possible solutions to noise problems:

- Poor connection Try handing up the phone and redialing.
- Poor phone line Some buildings have poor phone lines. If possible, try using a phone in a different building.
- Noisy power supply Large ventilating units, welders, motors, etc. can transmit electrical noise over power lines to computer equipment. The computer terminal should be on a separate circuit. Try operating the terminal in a different location. An isolation transformer may help.
- Installation PBX Some installation switchboards add (Switchboard) noise to telephone lines. A direct off-post line may improve the noise problem. A direct line is one where a special access code is not required to dial a commercial number.
- 1200 baud modems are quite sensitive to noise. If there is a noise problem, try using a 300 baud modem.
- Acoustical coupling The carbon microphone supplied with the telephone may not be good enough for computer communications. Try switching the microphone with another telephone. Also, electret condenser replacement microphones are available which are better than carbon microphones for use with a modem.



### APPENDIX C REPORT FORMATS

### EXECUTIVE SUMMARY OF ANALYSIS PAGE XX

PROJECT TITLE: (project title)

(machine date)

PROJECT OBJECTIVE: (objective of the analysis)

DISCOUNT RATE: ds rt% PERIOD OF ANALYSIS: pr YEARS ECONOMIC LIFE: ec YEARS

START YEAR: (start year) BASE YEAR: (base year)

#### ASSUMPTIONS OF THE ANALYSIS:

(discussion of assumptions text block)

#### ALTERNATIVES CONSIDERED FOR THIS ANALYSIS:

(discussion of alternatives text block)

#### ALTERNATIVES COMPARED:

<u>ALTERNATIVE</u>	NAME	<u>npv</u>	EUAC	( <u>SIR</u> )	_( <u>DPP</u> )
(STATUS QUO)	(name)	(xxxxxxxx)	(xxxxxxxxx)	()	()
1	(name)	XXXXXXXX	XXXXXXXXX	XXXXX	XXXX YEARS
2	(name)	XXXXXXXX	XXXXXXXXX	XXXXX	XXXX YEARS
3	(name)	XXXXXXXX	xxxxxxxxx	xxxxx	XXXX YEARS
4	(name)	xxxxxxxx	xxxxxxxxx	xxxxx	XXXX YEARS



#### RESULTS AND RECOMMENDATIONS:

(results and recommendations text block)

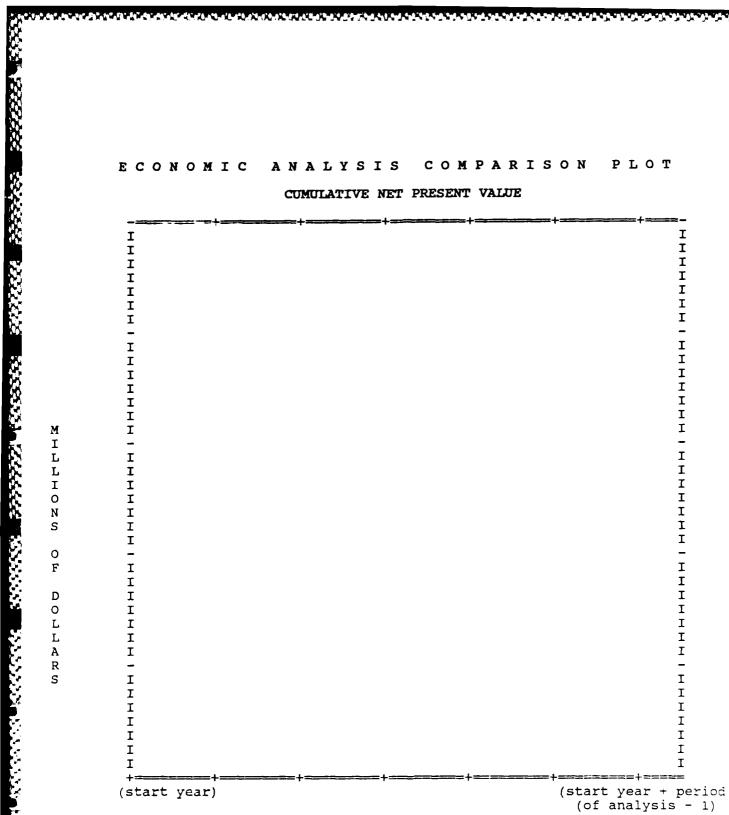
ACTION OFFICER: (name, title, and phone number of the action officer)

ORGANIZATION: (organization title)





#### COMPARISON PLOT



FISCAL YEAR

LEGEND	DESCRIPTION		
(alt #) <b>M</b>	(alternative name) MERGING DATA		

SARANANAN DISARKAN KANGOCAN KAASAA MARAA

A R

SECRECAST DESCRIPTION



### LIFE CYCLE COST REPORTS

(03)

PAGE XX

ALTERNATIVE XX: (alternative description)

(alternative description)

(title for) (title for) (title for) TOTAL
(expense item) (expense item) ANNUAL PRESENT
YEAR OUTLAYS VALUE

(01) (02) (start year)

(e)

CUMULATIVE PRESENT CUMULATIVE
PRESENT VALUE NET PRESENT
YEAR VALUE RESIDUAL VALUE

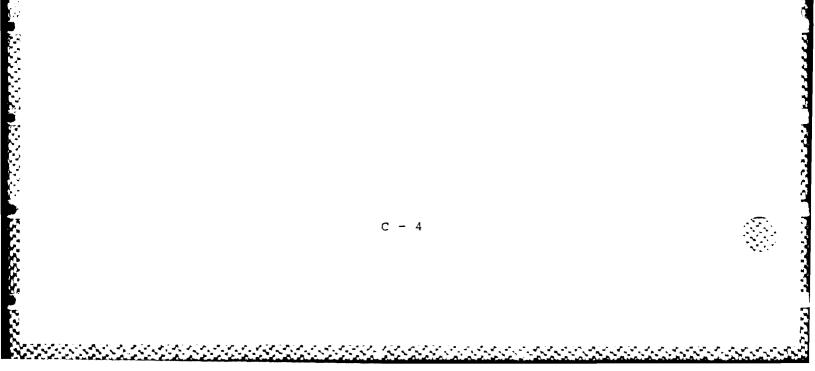
(start year)

(start year)
(start year +1)

(start year +1)

(start year + period of analysis - 1)

EQUIVALENT UNIFORM ANNUAL COST = euac ( % DISCOUNT RATE, YEARS EXPENSE ITEM(S) (1 - 10) USED INFLATION INDEX NUMBER (xx) - title





If Primary Analysis,

CYCLE COST REPORTS LIFE

PAGE XX

#### PRIMARY ECONOMIC ANALYSIS

PRESENT ALTERNATIVE: (status quo alternative name) PROPOSED ALTERNATIVE: (proposed alternative name)

(status quo economic life) YEARS ECONOMIC LIFE: PRESENT

(proposed alternative economic life) YEARS ECONOMIC LIFE: PROPOSED

RECURRING ANNUAL

OPERATIONS COSTS

PROPOSED DIFFERENTIAL

VALUE OF DIFFERENTIAL

PRESENT

PROJECT PRESENT ALTERNATIVE COSTS YEAR(S) ALTERNATIVE

COSTS

(start year)

(start year +1)

(start year + period of analysis - 1)

TOTALS

TOTAL PRESENT VALUE OF INVESTMENT

PLUS: PRESENT VALUE OF EXISTING ASSETS TO BE USED PRESENT VALUE OF EXISTING ASSETS REPLACED

PRESENT VALUE OF TERMINAL VALUE OF ALTERNATIVE

TOTAL PRESENT VALUE OF NET INVESTMENT PRESENT VALUE OF DIFFERENTIAL COSTS

PLUS: PRESENT VALUE OF COST OF REFURBISHMENT OR

MODIFICATION ELIMINATED

LESS: STATUS QUO SALVAGE VALUE TOTAL PRESENT VALUE OF SAVINGS

SAVINGS/INVESTMENT RATIO DISCOUNTED PAYBACK PERIOD

YEARS



# LIFE CYCLE COST REPORTS

PAGE XX

# SOURCE AND DERIVATION OF COSTS AND BENEFITS:

(source/derivation of costs and benefits text block)

# SENSITIVITY ANALYSIS

(project title)

NO
FOR SELECTED ALTERNATIVE (first alternative included in analysis COST ITEMS TO CHANGE (expense item to change for alternative)
FOR SELECTED ALTERNATIVE (next alternative included in analysis) COST ITEMS TO CHANGE (expense item to change for alternative)
FOR SELECTED ALTERNATIVE (next alternative included in analysis) COST ITEMS TO CHANGE (expense item to change for alternative)
OBJECTIVE RANK ALTERNATIVE XX FIRST
INITIAL RANKING FINAL RANKING
ALTERNATIVE NET DISCOUNTED P.V. ALTERNATIVE NET DISCOUNTED P.V.

REQUIRED PERCENTAGE IS

욯

\*\* END OF RUN \*\*

#### APPENDIX D SAMPLE OUTPUT

# CASE STUDY FORT ALICE

\* VERSION 1.0

\*

PROJECT TITLE IS 'OFFICERS QUARTERS'
ACTION OFFICER IS 'JAMES R. SPINDLE'
ORGANIZATION IS 'DEH, FORT ALICE'
OBJECTIVE IS 'PROVIDE 95000 SF OF UNACCOMPANIED OFFICER HOUSIG'

\*

BEGIN ASSUMPTIONS Construction is assumed to take 2 years. Half of the units will be available in 1988 and beneficial occupancy for the remaining units will occur in 1989.

Renovation is expected to take only one year.



END ASSUMPTIONS

\*

BEGIN DISCUSSION OF ALTERNATIVES
New Construction- this alternative will provide the required 95,000 sf
of unaccompanied officer housing.

Modification- an existing, unoccupied administrative facility will be renovated to provide the necessary 95,000 sf of housing for unaccompanied officers.

Status Quo Operations- this is a new mission requirement. There are no facilities available to accommodate this increase in troop strength.

Pay BAQ/VHA- this alternative was eliminated from further evaluation due to the absence of housing available in the vicinity of Fort Alice. The closest town is 87 miles away. Winter conditions preclude commuting from this distance for 4 months of the year. Most importantly, mission requirements, due to the early deployment requirement preclude this unit from being billeted off-post.

Lease- No existing facilities are available for lease within a 100 mile radius of the installation. The mission requirements of this unit (as discussed above) prevent this alternative from being feasible.



END DISCUSSION OF ALTERNATIVES BEGIN DATA PERIOD OF ANALYSIS IS 27 YEARS START YEAR IS 1987 BASE YEAR IS 1987 DISCOUNT RATE IS 10.00 GLOBAL DISCOUNTING CONVENTION IS 2 SECONDARY ANALYSIS COST STORED IN 'ACTUAL' DOLLARS END DATA BEGIN ALTERNATIVE 1 ALTERNATIVE NAME IS 'NEW CONSTRUCTION' ALTERNATIVE DESCRIPTION IS & 'PERMANENT CONSTRUCTION OF UNACCOMPANIED' & 'OFFICER QUARTER (95000 SF)' ECONOMIC LIFE IS 27 YEARS EXPENSE ITEM 1 IS 'INITIAL: CONSTRUCTION: COST' & 2\*3250000.00 25\*0.00 EXPENSE ITEM 2 IS 'MAINTENANCE: AND: REPAIR' & 1\*0.00 1\*26471.00 25\*52942.00 EXPENSE ITEM 3 IS 'UTILITIES: : ' & 1\*0.00 1\*25175.00 25\*50350.00 EXPENSE ITEM 4 IS 'NEW ROOF: IN YR 15: HVAC YR 20' & 14\*0.00 1\*855000.00 4\*0.00 1\*1170000.00 7\*0.00 INFLATION FACTORS ARE & 4 \* 0 DISCOUNT FACTORS ARE & 4 \* 2 SALVAGE VALUE IS 2600000.00 RESIDUAL INFLATION INDEX IS RESIDUAL DISCOUNTING CONVENTION IS 3 END ALTERNATIVE BEGIN ALTERNATIVE 2 ALTERNATIVE NAME IS 'MODIFICATION' ALTERNATIVE DESCRIPTION IS & 'MODIFY AN EXISTING FACILITY TO PROVIDE 95000 SF' & 'OF UNACCOMPANIED OFFICERS QUARTERS' ECONOMIC LIFE IS 27 YEARS EXPENSE ITEM 1 IS 'RENOVATION: UPGRADE: ' & 1\*5890000.00 26\*0.00 EXPENSE ITEM 2 IS 'UPGRADE IN: YEAR 15 ROOF: YEAR 20 HVAC' & 14\*0.00 1\*855000.00 4\*0.00 1\*1060200.00 7\*0.00 EXPENSE ITEM 3 IS 'MAINTENANCE: AND: REPAIR' & 1\*0.00 26\*123500.00 EXPENSE ITEM 4 IS 'UTILITIES: : ' &

CONTROL SECTIONS OF CONTROL STATES

1\*0.00 26\*82650.00
EXPENSE ITEM 5 IS 'DEMOLITION:COST: ' &
26\*0.00 1\*252700.00
INFLATION FACTORS ARE &
5\*0
DISCOUNT FACTORS ARE &
5\*2
END ALTERNATIVE 2
\*
\*
BEGIN SOURCE/DERIVATION
NEW CONSTRUCTION

Initial investment was determined to be \$74.00/sf per 415-17.

Maintenance and repair estimates were obtained from FY86 Tech Data Reports. These costs were inflated to FY87 by OSD/OMB inflation indices as follows: \$.54/sf x 95,000 sf = \$51,300

 $$51,300 \times 1.032 \text{ (Inflation)} = $52,942.$ 

Utility costs are based on DEH historical records @ \$.53/sf.

Roof replacement and HVAC replacements were included in years 15 and 20 respectively. Roof estimates for both alternatives were developed as follows:  $$9.00/sf \times 95,000 sf = $855,000.$ 

HVAC was assumed to be 18% of initial construction/renovation costs.

A residual value for the facility was estimated to be 40% of initial construction costs.

MODIFICATION

Renovation costs were estimated to be \$62.00 per sf.

Maintenance and repair estimates were obtained from historical records as follows:  $$1.30/sf \times 95,000 sf = $123,500.$ 

Utilities estimates were also obtained from historical records as follows:  $\$.87/\text{sf} \times 95,000 \text{ sf} = \$82,650.$ 

A one-time upgrade in year 20 is included to reflect overhaul of HVAC and a new roof.

Demolition costs for the facility were estimated to be \$2.66/sf.

END SOURCE/DERIVATION

\*

D - 3

BEGIN GRAPHICS 1 PLOT ALTERNATIVES 1 2 END GRAPHICS 1

\*

### BEGIN RESULTS

The new construction alternative is the least cost alternative and recommended to provide the required 95,000 sf. In addition to the quantitative advantages, the new construction alternative offers a higher ranking of non-monetary considerations as follows:

	Modification	New Construction
Morale	Fair	High
Discipline	Fair	Very Good
Re-enlistment	Fair	High
Readiness	Fair	Excellent
Traffic Accidents	Fair	Excellent
(lost time)		
Community Relations	Fair	Excellent

END RESULTS

~

STOP RUN

FILENAME: FTALICE

02 NOV 1987

#### EXECUTIVE SUMMARY REPORT PAGE 001

PROJECT TITLE : OFFICERS QUARTERS

PROJECT OBJECTIVE: PROVIDE 95000 SF OF UNACCOMPANIED OFFICER HOUSING

DISCOUNT RATE : 10.00%
PERIOD OF ANALYSIS: 27 YEARS
START YEAR : 1987
BASE YEAR : 1987

#### ASSUMPTIONS OF THE ANALYSIS:

Construction is assumed to take 2 years. Half of the units will be available in 1988 and beneficial occupancy for the remaining units will occur in 1989.

Renovation is expected to take only one year.

ALTERNATIVES CONSIDERED FOR THIS ANALYSIS: New Construction- this alternative will provide the required 95,000 sf of unaccompanied officer housing.



Modification- an existing, unoccupied administrative facility will be renovated to provide the necessary 95,000 sf of housing for unaccompanied officers.

Status Quo Operations- this is a new mission requirement. There are no facilities available to accommodate this increase in troop strength.

Pay BAQ/VHA- this alternative was eliminated from further evaluation due to the absence of housing available in the vicinity of Fort Alice. The closest town is 87 miles away. Winter conditions preclude commuting from this distance for 4 months of the year. Most importantly, mission requirements, due to the early deployment requirement preclude this unit from being billeted off-post.

Lease- No existing facilities are available for lease within a 100 mile radius of the installation. The mission requirements of this unit (as discussed above) prevent this alternative from being feasible.

ALTERNATIVE NAME	NPV	EUAC
1 NEW CONSTRUCTION 2 MODIFICATION	\$6,972,002 \$7,816,707	\$754,772 \$846,218

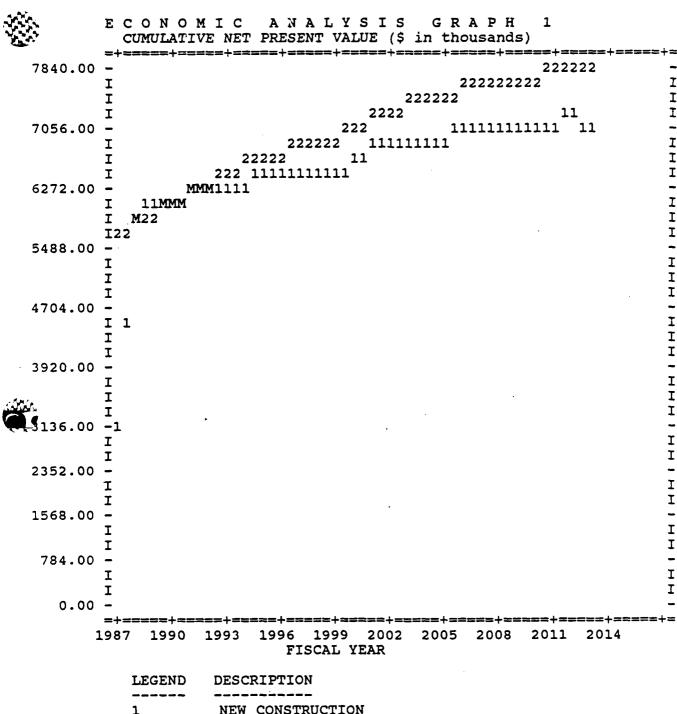
### RESULTS AND RECOMMENDATIONS:

The new construction alternative is the least cost alternative and recommended to provide the required 95,000 sf. In addition to the quantitative advantages, the new construction alternative offers a higher ranking of non-monetary considerations as follows:

	Modification	New Construction
Morale	Fair	High
Discipline	Fair	Very Good
Re-enlistment	Fair	High
Readiness	Fair	Excellent
Traffic Accidents (lost time)	Fair	Excellent
Community Relations	Fair	Excellent

ACTION OFFICER: JAMES R. SPINDLE ORGANIZATION : DEH, FORT ALICE

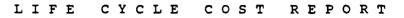
STATE DESCRIPTION ASSESSMENT SECONDESS ASSESSMENTALISMENT ASSESSMENTALISME





FILENAME: FTALICE

02 NOV 1987



PAGE 001

# PROJECT/PROGRAM COSTS

### ALTERNATIVE 1: NEW CONSTRUCTION

ASSEST MARKETERS MARKETERS WITHOUT SECRECATE PROSESSES MARKETERS M

YEAR	INITIAL CONSTRUCTION COST (01)	MAINTENANCE AND REPAIR (02)	UTILITIES (03)	NEW ROOF IN YR 15 HVAC YR 20 (04)	TOTAL ANNUAL OUTLAYS	
1987	\$3,250,000	\$0	\$0	\$0	\$3,250,000	
1988	\$3,250,000	\$26,471	\$25,175	\$0	\$3,301,646	
1989	\$0	\$52,942	\$50,350	\$0	\$103,292	
1990	\$0	\$52,942	\$50,350	\$0	\$103,292	
1991	\$0	\$52,942	\$50,350	\$0	\$103,292	
1992	\$0	\$52,942	\$50,350	\$0	\$103,292	
1993	\$0	\$52,942	\$50,350	\$0	\$103,292	
1994	\$0	\$52,942	\$50,350	\$0	\$103,292	
1995	\$0	\$52,942	\$50,350	\$0	\$103,292	
1996	\$0	\$52,942	\$50,350	\$0	\$103,292	
1997	\$0	\$52,942	\$50,350	\$0	\$103,292	
1998	\$0	\$52,942	\$50,350	\$0	\$103,292	
1999	\$0	\$52,942	\$50,350	\$0	\$103,292	SH)
2000	\$0	\$52,942	\$50,350	· \$0	\$103,292	A.A. M
2001	\$0	\$52,942	\$50,350	\$855,000	\$958,292	-
2002	\$0	\$52,942	\$50,350	\$0	\$103,292	
2003	\$0	\$52,942	\$50,350	\$0	\$103,292	
2004	\$0	\$52,942	\$50,350	\$0	\$103,292	
2005	\$0	\$52,942	\$50,350	\$0	\$103,292	
2006	\$0	\$52,942	\$50,350	\$1,170,000	\$1,273,292	
2007	\$0	\$52,942	\$50,350	\$0	\$103,292	
2008	\$0	\$52,942	\$50,350	\$0	\$103,292	
2009	\$0	\$52,942	\$50,350	\$0	\$103,292	
2010	\$0	\$52,942	\$50,350	\$0	\$103,292	
2011	\$0	\$52,942	\$50,350	\$0	\$103,292	
2012	\$0	\$52,942	\$50,350	·\$0	\$103,292	
2013	\$0	\$52,942	\$50,350	\$0	\$103,292	
%NPV	84.85	6.30	5.99	. 5.70		



# PROJECT/PROGRAM COSTS

ALTERNATIVE 1: NEW CONSTRUCTION

YEAR	PRESENT VALUE	CUMULATIVE PRESENT VALUE	PRESENT VALUE RESIDUAL	CUMULATIVE NET PRESENT VALUE
1987	\$3,098,753	\$3,098,753	\$0	\$3,098,753
1988	\$2,861,815	\$5,960,568	\$0	\$5,960,568
1989	\$81,393	\$6,041,961	\$0	\$6,041,961
1990	\$73,993	\$6,115,954	\$0	\$6,115,954
19 <b>91</b>	\$67,266	\$6,183,220	\$0	\$6,183,220
1992	\$61,151	\$6,244,371	\$0	\$6,244,371
1993	\$55,593	\$6,299,964	\$0	\$6,299,964
1994	\$50,538	\$6,350,502	\$0	\$6,350,502
1995	\$45,944	\$6,396,446	\$0	\$6,396,446
1996	\$41,768	\$6,438,214	\$0	\$6,438,214
1997	\$37,971	\$6,476,185	\$0	\$6,476,185
1998	\$34,518	\$6,510,703	\$0	\$6,510,703
1999	\$31,380	\$6,542,083	\$0	\$6,542,083
2000	\$28,528	\$6,570,611	\$0	\$6,570,611
2001	\$240,604	\$6,811,215	\$0	\$6,811,215
2002	\$23,576	\$6,834,791	\$0	\$6,834,791
2003	\$21,434	\$6,856,225	\$0	\$6,856,225
2004	\$19,485	\$6,875,710	\$0	\$6,875,710
2005	\$17,713	\$6,893,423	\$0	\$6,893,423
2006	\$198,506	\$7,091,929	\$0	\$7,091,929
2007	\$14,639	\$7,106,568	\$0	\$7,106,568
2008	\$13,308	\$7,119,876	\$0	\$7,119,876
2009	\$12,098	\$7,131,974	\$0	\$7,131,974
2010	\$10,998	\$7,142,972	\$0	\$7,142,972
2011	\$9,999	\$7,152,971	\$0	\$7,152,971
2012	\$9,090	\$7,162,061	<b>\$</b> 0	\$7,162,061
2013	\$8,263	\$7,170,324	\$198,322	\$6,972,002
%NPV		•	-2.84	

EQUIVALENT UNIFORM ANNUAL COST = \$754,772 (10.00% DISCOUNT RATE, 27 YEARS)



# LIFE CYCLE COST REPORT PAGE 003

# PROJECT/PROGRAM COSTS

# ALTERNATIVE 2: MODIFICATION

YEAR	RENOVATION UPGRADE	UPGRADE IN YEAR 15 ROOF YEAR 20 HVAC	MAINTENANCE AND REPAIR	UTILITIES	DEMOLITION COST
	(01)	(02)	(03)	(04)	(05)
1987	\$5,890,000	\$0	\$0	\$0	\$0
1988	\$0	\$0	\$123,500	\$82,650	\$0
1989	\$0	\$0	\$123,500	\$82,650	\$0
1990	\$0	\$0	\$123,500	\$82,650	\$0
1991	\$0	\$0	\$123,500	\$82,650	\$0
1992	\$0	\$0	\$123,500	\$82,650	\$0
1993	\$0	\$0	\$123,500	\$82,650	\$0
1994	\$0	\$0	\$123,500	\$82,650	\$0
1995	\$0	\$0	\$123,500	\$82,650	\$0
1996	\$0	\$0	\$123,500	\$82,650	\$0
1997	\$0	\$0	\$123,500	\$82,650	\$0
1998	\$0	\$0	\$123,500	\$82,650	\$0
1999	\$0	• \$0	\$123,500	\$82,650	\$0
2000	\$0	\$0	\$123,500	\$82,650	\$0
2001	\$0	\$855,000	\$123,500	\$82,650	\$0
2002	\$0	\$0	\$123,500	\$82,650	\$0
2003	\$0	\$0	\$123,500	\$82,650	\$0
2004	\$0	\$0	\$123,500	\$82,650	\$0
2005	\$0	\$0	\$123,500	\$82,650	\$0
2006	\$0	\$1,060,200	\$123,500	\$82,650	\$0
2007	\$0	\$0	\$123,500	\$82,650	\$0
2008	<b>, \$0</b>	\$0	\$123,500	\$82,650	\$0
2009	\$0	\$0	\$123,500	\$82,650	\$0
2010	\$0	\$0	\$123,500	\$82,650	\$0
2011	\$0	\$0	\$123,500	\$82,650	\$0
2012	\$0	\$0.	\$123,500	\$82,650	\$0
2013	\$0	. \$0	\$123,500	\$82,650	\$252,700
%NPV	71.84	4.86	13.80	9.24	0.2



# LIFE CYCLE COST REPORT PAGE 004

# PROJECT/PROGRAM COSTS

#### ALTERNATIVE 2: MODIFICATION

YEAR	TOTAL ANNUAL OUTLAYS	PRESENT VALUE	CUMULATIVE NET PRESENT VALUE
1987	\$5,890,000	\$5,615,895	\$5,615,895
1988	\$206,150	\$178,688	\$5,794,583
1989	\$206,150	\$162,443	\$5,957,026
1990	\$206,150	\$147,675	\$6,104,701
1991	\$206,150	\$134,251	\$6,238,952
1992	\$206,150	\$122,046	\$6,360,998
1993	\$206,150	\$110,951	\$6,471,949
1994	\$206,150	\$100,865	\$6,572,814
1995	\$206,150	\$91,694	\$6,664,508
1996	\$206,150	\$83,359	\$6,747,867
1997	\$206,150	\$75,781	\$6,823,648
1998	\$206,150	\$68,892	\$6,892,540
1999	\$206,150	\$62,629	\$6,955,169
2000	\$206,150	\$56,936	\$7,012,105
2001	\$1,061,150	\$266,429	\$7,278,534
2002	\$206,150	\$47,054	\$7,325,588
2003	\$206,150	\$42,776	\$7,368,364
2004	\$206,150	\$38,888	\$7,407,252
2005	\$206,150	\$35,353	\$7,442,605
2006	\$1,266,350	\$197,422	\$7,640,027
2007	\$206,150	\$29,217	\$7,669,244
2008	\$206,150	\$26,561	\$7,695,805
2009	\$206,150	\$24,146	\$7,719,951
2010	\$206,150	\$21,951	\$7,741,902
2011	\$206,150	\$19,956	\$7,761,858
2012	\$206,150	\$18,141	\$7,779,999
2013	\$458,850	\$36,708	\$7,816,707

EQUIVALENT UNIFORM ANNUAL COST = \$846,218 (10.00% DISCOUNT RATE, 27 YEARS)



#### LIFE CYCLE COST REPORT

PAGE 005

SOURCE AND DERIVATION OF COSTS AND BENEFITS: NEW CONSTRUCTION

Initial investment was determined to be \$74.00/sf per 415-17. Maintenance and repair estimates were obtained from FY86 Tech Data Reports. These costs were inflated to FY87 by OSD/OMB inflation indices as follows:

 $$.54/sf \times 95,000 sf = $51,300$ 

 $$51,300 \times 1.032 \text{ (Inflation)} = $52,942.$ 

Utility costs are based on DEH historical records @ \$.53/sf.

Roof replacement and HVAC replacements were included in years 15 and 20 respectively. Roof estimates for both alternatives were developed as follows:

 $$9.00/sf \times 95,000 sf = $855,000.$ 

HVAC was assumed to be 18% of initial construction/renovation costs. A residual value for the facility was estimated to be 40% of initial construction costs.

#### MODIFICATION

Renovation costs were estimated to be \$62.00 per sf.
Maintenance and repair estimates were obtained from historical records as follows:

 $$1.30/sf \times 95,000 sf = $123,500.$ 

Utilities estimates were also obtained from historical records as follows:

 $\$.87/sf \times 95,000 sf = \$82,650.$ 

A one-time upgrade in year 20 is included to reflect overhaul of HVAC and a new roof.

Demolition costs for the facility were estimated to be \$2.66/sf.



#### INPUT LISTING LINES 000001-000050

0001: \* 0002: \* VERSION 1.0 0003: \* 0004: \* 0005: PROJECT TITLE IS 'OFFICERS QUARTERS' 0006: ACTION OFFICER IS 'JAMES R. SPINDLE' 0007: ORGANIZATION IS 'DEH, FORT ALICE' 0008: OBJECTIVE IS 'PROVIDE 95000 SF OF UNACCOMPANIED OFFICER HOUSNG' 0009: \* 0010: \* 0011: BEGIN ASSUMPTIONS 0012: Construction is assumed to take 2 years. Half of the units will be 0013: available in 1988 and beneficial occupancy for the remaining units 0014: will occur in 1989. 0015: 0016: Renovation is expected to take only one year. 0017: 0018: 0019: END ASSUMPTIONS 0020: \* 0021: \* 0022: BEGIN DISCUSSION OF ALTERNATIVES 0023: New Construction- this alternative will provide the required 95,000 sf 0024: of unaccompanied officer housing. 0026: Modification- an existing, unoccupied administrative facility will be 0027: renovated to provide the necessary 95,000 sf of housing for unaccompanie 0028: officers. 0030: Status Quo Operations- this is a new mission requirement. There are 0031: no facilities available to accomodate this increase in troop strength. 0032: 0033: Pay BAQ/VHA- this alternative was eliminated from further evaluation due 0034: the absence of housing available in the vicinity of Fort Alice. The clc 0035: town is 87 miles away. Winter conditions preclude commuting from this 0036: distance for 4 months of the year. Most importantly, mission 0037: requirements, due to the early deployment requirement preclude this unit 0038: from being billeted off-post. 0039: 0040: Lease- No existing facilities are available for lease within a 100 mile 0041: radius of the installation. The mission requirements of this unit 0042: (as discussed above) prevent this alternative from being feasible. 0043: 0044: 0045: END DISCUSSION OF ALTERNATIVES 0046: \* 0047: \* 0048: BEGIN DATA 0049: PERIOD OF ANALYSIS IS 27 YEARS 0050: START YEAR IS 1987



### INPUT LISTING LINES 000051-000100

0051: BASE YEAR IS 1987 0052: DISCOUNT RATE IS 10.00 0053: GLOBAL DISCOUNTING CONVENTION IS 2 0054: SECONDARY ANALYSIS 0055: COST STORED IN 'ACTUAL' DOLLARS 0056: END DATA 0057: \* 0058: \* 0059: BEGIN ALTERNATIVE 0060: ALTERNATIVE NAME IS 'NEW CONSTRUCTION' 0061: ALTERNATIVE DESCRIPTION IS & 0062: 'PERMANENT CONSTRUCTION OF UNACCOMPANIED' & 0063: 'OFFICER QUARTER (95000 SF)' 0064: ECONOMIC LIFE IS 27 YEARS 0065: EXPENSE ITEM 1 IS 'INITIAL: CONSTRUCTION: COST' & 0066: 2\*3250000.00 25\*0.00 0067: EXPENSE ITEM 2 IS 'MAINTENANCE: AND: REPAIR' & 0068: 1\*0.00 1\*26471.00 25\*52942.00 0069: EXPENSE ITEM 3 IS 'UTILITIES: : ' & 0070: 1\*0.00 1\*25175.00 25\*50350.00 0071: EXPENSE ITEM 4 IS 'NEW ROOF: IN YR 15: HVAC YR 20' & 0072: 14\*0.00 1\*855000.00 4\*0.00 1\*1170000.00 7\*0.00 0073: INFLATION FACTORS ARE & 0074: 4\*0 0075: DISCOUNT FACTORS ARE & 0076: 4\*2 0077: SALVAGE VALUE IS 2600000.00 0078: RESIDUAL INFLATION INDEX IS 0079: RESIDUAL DISCOUNTING CONVENTION IS 3 0080: END ALTERNATIVE 1 0081: \* 0082: \* 0083: BEGIN ALTERNATIVE 2 0084: ALTERNATIVE NAME IS 'MODIFICATION' 0085: ALTERNATIVE DESCRIPTION IS & 0086: 'MODIFY AN EXISTING FACILITY TO PROVIDE 95000 SF' & 0087: 'OF UNACCOMPANIED OFFICERS QUARTERS' 0088: ECONOMIC LIFE IS 27 YEARS 0089: EXPENSE ITEM 1 IS 'RENOVATION: UPGRADE: ' & 0090: 1\*5890000.00 26\*0.00 0091: EXPENSE ITEM 2 IS 'UPGRADE IN: YEAR 15 ROOF: YEAR 20 HVAC' & 0092: 14\*0.00 1\*855000.00 4\*0.00 1\*1060200.00 7\*0.00 0093: EXPENSE ITEM 3 IS 'MAINTENANCE: AND: REPAIR' & 0094: 1\*0.00 26\*123500.00 0095: EXPENSE ITEM 4 IS 'UTILITIES: : ' & 0096: 1\*0.00 26\*82650.00 0097: EXPENSE ITEM 5 IS 'DEMOLITION: COST: ' & 0098: 26\*0.00 1\*252700.00 0099: INFLATION FACTORS ARE & 0100: 5\*0



#### INPUT LISTING LINES 000101-000150

```
0101: DISCOUNT FACTORS ARE &
0102: 5*2
0103: END ALTERNATIVE 2
0104: *
0105:
0106: BEGIN SOURCE/DERIVATION
0107: NEW CONSTRUCTION
0108:
        Initial investment was determined to be $74.00/sf per 415-17.
0109:
0110:
        Maintenance and repair estimates were obtained from FY86 Tech Data
0111:
0112:
0113: Reports. These costs were inflated to FY87 by OSD/OMB inflation indices
0114:
0115: as follows: $.54/sf \times 95,000 sf = $51,300
0116:
                   $51,300 \times 1.032 \text{ (Inflation)} = $52,942.
0117:
0118:
       Utility costs are based on DEH historical records @ $.53/sf.
0119:
0120:
0121:
        Roof replacement and HVAC replacements were included in years 15 and 2
0122:
0123: respectively. Roof estimates for both alternatives were developed as
0124:
0125: follows: \$9.00/sf \times 95,000 sf = \$855,000.
0126:
0127: HVAC was assumed to be 18% of initial construction/renovation costs.
0128:
0129: A residual value for the facility was estimated to be 40% of initial
0130:
0131: construction costs.
0132:
0133:
0134:
0135: MODIFICATION
0136:
        Renovation costs were estimated to be $62.00 per sf.
0137:
0138:
        Maintenance and repair estimates were obtained from historical records
0139:
0140:
0141: as follows: $1.30/sf \times 95,000 sf = $123,500.
0142:
        Utilities estimates were also obtained from historical records as
0143:
0144:
0145: follows: \$.87/sf \times 95,000 sf = \$82,650.
0146:
        A one-time upgrade in year 20 is included to reflect overhaul of HVAC
0147:
0148:
0149: and a new roof.
```



0150:

### INPUT LISTING LINES 000151-000200

```
0151: Demolition costs for the facility were estimated to be $2.66/sf.
0152:
0153:
0154:
0155:
0156:
0157: END SOURCE/DERIVATION
0158: *
0159: *
0160: BEGIN GRAPHICS 1
0161: PLOT ALTERNATIVES 1 2
0162: END GRAPHICS 1
0163: *
0164: *
0165: BEGIN RESULTS
0166: The new construction alternative is the least cost alternative and
0167: recommended to provide the required 95,000 sf.
                                                        In addition to the
0168: quantitative advantages, the new construction alternative offers a
0169: higher ranking of non-monetary considerations as follows:
0170:
                            Modification
                                                      New Construction
0171:
                                                            High
                                Fair
0172: Morale
                                Fair
                                                         Very Good
0173: Discipline
0174: Re-enlistment
                                Fair
                                                            High
0175: Readiness
                                Fair
                                                         Excellent
                                                         Excellent
0176: Traffic Accidents
                                Fair
           (lost time)
0177:
                                                         Excellent
                                Fair
0178: Community Relations
0179:
0180: END RESULTS
0181: *
0182: *
0183: STOP RUN
```

\*\* END OF RUN \*\*



## CASE STUDY FORT PANAMA

\* VERSION 1.0

\*

PROJECT TITLE IS 'PANAMA HOUSING'
ACTION OFFICER IS 'BOB N'
ORGANIZATION IS 'USA-CERL'
OBJECTIVE IS 'DETERMINE LEAST COST METHOD OF HOUSING 500 FAM'

\*

#### BEGIN ASSUMPTIONS

For the conventional MCA construction alternative (#4), it is assumed that there will be no payment made by the Republic of Panama upon the transfer of the property in 1999.

Complete beneficial occupancy for all alternatives will occur in 1987.

Delivery schedules are assumed to be 60/40% for MCA units and 50/50% for trailer/relocatable units.

Lease and rental Guarantee units will be located on privately owned land.

The discount rate is 8.60%, based on 10 year treasury securities.

END ASSUMPTIONS

\*

BEGIN DISCUSSION OF ALTERNATIVES
There are five alternatives analyzed to meet the requirement of housing 500 families. These are:

- 1. Lease housing through the Republic of Panama the Army would enter into an agreement to lease 500 units from the ROP.
- 2. Build to lease 500 housing units would be constructed by a private developer and leased to the Army.
- 3. Rental guarantee the Army would guarantee 97% occupancy of 500 rental housing units. Occupants receive BAQ/VHA and pay for rent & utilities.
- 4. MCA Construction 500 housing units would be built on-post through conventional MCA construction.
- 5. Purchase trailers/relocatable units the Army would provide housing for 500 families on-post in trailers/locatable housing units.

END DISCUSSION OF ALTERNATIVES

BEGIN DATA PERIOD OF ANALYSIS IS 15 YEARS START YEAR IS 1985 BASE YEAR IS 1985 DISCOUNT RATE IS 8.60 GLOBAL DISCOUNTING CONVENTION IS 2 INFLATION INDEX 1 IS 'MOBILE PROJECTION' & 15\*0.07 INFLATION INDEX 2 IS 'OSD GENERAL' & 15\*0.05 INFLATION INDEX 3 IS 'NO INFLATION' & 15\*0.00 SECONDARY ANALYSIS COST STORED IN 'THOUSANDS OF' DOLLARS END DATA BEGIN ALTERNATIVE 1 ALTERNATIVE NAME IS 'ROP LEASE' ALTERNATIVE DESCRIPTION IS & 'LEASE HOUSING THROUGH THE REPUBLIC OF PANAMA' ECONOMIC LIFE IS 15 YEARS EXPENSE ITEM 1 IS 'LEASE: RENT: ' & 2\*0.00 13\*3600.00 EXPENSE ITEM 2 IS 'SERVICES: : ' & 2\*0.00 13\*306.00 EXPENSE ITEM 3 IS 'UTILITIES: : ' & 2\*0.00 13\*2058.00 EXPENSE ITEM 4 IS 'MAINTENANCE: AND: REPAIR' & 2\*0.00 13\*432.00 EXPENSE ITEM 5 IS 'ALLOWANCES: : ' & 2\*5800.00 13\*11.50 INFLATION FACTORS ARE & 1\*1 4\*2 DISCOUNT FACTORS ARE & 5\*2 END ALTERNATIVE BEGIN ALTERNATIVE 2 ALTERNATIVE NAME IS 'BUILD TO LEASE' ALTERNATIVE DESCRIPTION IS & 'BUILD HOUSING TO LEASE' ECONOMIC LIFE IS 15 YEARS EXPENSE ITEM 1 IS 'ALLOWANCES: : ' & 2\*5800.00 13\*0.00 EXPENSE ITEM 2 IS 'LEASE: RENT: ' & 2\*0.00 13\*4020.00 EXPENSE ITEM 3 IS 'SERVICES: : ' & 2\*0.00 13\*48.00 EXPENSE ITEM 4 IS 'UTILITIES: : ' & 2\*0.00 13\*1770.00

```
EXPENSE ITEM 5 IS 'MAINTENANCE: : ' &
2*0.00 13*564.00
INFLATION FACTORS ARE &
1*2 1*1 3*2
DISCOUNT FACTORS ARE &
5*2
END ALTERNATIVE 2
BEGIN ALTERNATIVE 3
ALTERNATIVE NAME IS 'RENT GUARANTEE'
ALTERNATIVE DESCRIPTION IS &
'GUARANTEE RENT TO BUILDER/OWNER'
ECONOMIC LIFE IS 15 YEARS
EXPENSE ITEM 1 IS 'ALLOWANCES: : ' &
2*5800.00 13*0.00
EXPENSE ITEM 2 IS 'LEASE: RENT: ' &
2*0.00 13*3480.00
EXPENSE ITEM 3 IS 'SERVICES: : ' &
2*0.00 13*48.00
EXPENSE ITEM 4 IS 'UTILITIES: : ' &
2*0.00 13*2070.00
INFLATION FACTORS ARE &
1*2 1*1 2*2
DISCOUNT FACTORS ARE &
4 * 2
END ALTERNATIVE
BEGIN ALTERNATIVE
ALTERNATIVE NAME IS 'MCA CONSTRUCTION'
ALTERNATIVE DESCRIPTION IS &
'CONVENTIONAL AND MCA CONSTRUCTION' &
'NO PAYMENT BY ROP UPON TRANSFER OF PROPERTY'
ECONOMIC LIFE IS 15 YEARS
EXPENSE ITEM 1 IS 'ALLOWANCES: : ' &
1*5800.00 1*2320.00 13*0.00
                                 AND: CONSTRUCTION' &
EXPENSE ITEM 2 IS ' DESIGN:
1*21538.00 1*14406.00 13*0.00
EXPENSE ITEM 3 IS 'UTILITIES: : ' &
1*0.00 1*1054.80 13*1758.00
EXPENSE ITEM 4 IS 'MAINTENANCE:
                                   AND: REPAIR' &
1*0.00 1*162.00 13*270.00
EXPENSE ITEM 5 IS 'EQUIPMENT: : ' &
1*418.20 1*278.80 13*11.50
EXPENSE ITEM 6 IS 'SERVICES: : ' &
1*0.00 1*226.80 13*378.00
INFLATION FACTORS ARE &
1*2 1*1 4*2
DISCOUNT FACTORS ARE &
6*2
```



END ALTERNATIVE

BEGIN ALTERNATIVE ALTERNATIVE NAME IS 'TRAILER' ALTERNATIVE DESCRIPTION IS & 'TRAILER/RELOCATABLE' & 'CONSTRUCTION ON LAND AREAS UNDER US CONTROL UNIT' ECONOMIC LIFE IS 15 YEARS EXPENSE ITEM 1 IS 'ALLOWANCES: : ' & 1\*2900.00 1\*1450.00 13\*0.00 EXPENSE ITEM 2 IS ' DESIGN: AND: CONSTRUCTION' & 2\*6250.00 13\*0.00 EXPENSE ITEM 3 IS 'SERVICES: : ' & 1\*0.00 1\*189.00 13\*378.00 EXPENSE ITEM 4 IS 'UTILITIES: : ' & 1\*0.00 1\*804.00 13\*1608.00 EXPENSE ITEM 5 IS 'MAINTENANCE: AND: REPAIR' & 1\*0.00 1\*270.00 9\*540.00 4\*792.00 EXPENSE ITEM 6 IS 'TRANSPORT: : ' & 2\*1625.00 13\*0.00 INFLATION FACTORS ARE & 1\*2 1\*1 4\*2 DISCOUNT FACTORS ARE & 6\*2 END ALTERNATIVE 5 BEGIN SOURCE/DERIVATION

Cost estimation was performed by the estimators in the District Office. Costs were made in 1985 dollars. Maintenance, repair, utilities, equipment and services costs estimates were made by the DEH staff with the assistance of the district office.

Two inflation indices were used. One was developed by the Mobile DO and the other was published by OSD.

ALTERNATIVE 1 ROP LEASE

ACCIONAL SECURIORIA SECURIORIA DE CONTRACTOR DE SECURIORIA PESSESSES. PROFESSOS SECURIORIA SECURIORIA DE SECURIORI

Lease rent, services, utilities, and M&R costs are specified in the lease contract and will increase with inflation.

ALTERNATIVE 2 BUILD TO LEASE

Lease rent, services, utilities, and M&R costs are specified in the lease contract and will increase with inflation.

ALTERNATIVE 3 RENTAL GUARANTEE

Lease reflects estimated BAQ/VHA payments. Services, utilities and M&R are specified in the Lease Contract.

ALTERNATIVE 4 MCA CONSTRUCTION

MCA construction cost was developed by use of the Tri-Service cost model. (\$71,888 per unit) x 500 units = \$35,944,000 Utilities costs are based on historical data, \$3,516 per unit.



M&R costs are also based on historical data, \$540 per unit/year. Service costs reflect garbage collection and entomological services. This cost is based on current annual costs per unit in Panama @ \$756/unit/year.

Equipment costs reflect washer/dryer \$422 range \$722 refrigerator \$250

\$1,394 per unit

 $$1394 \times 500 \text{ units} = $697,000$ 

Maintenance and repair of equipment was estimated to average \$23/unit/year.

ALTERNATIVE 5 TRAILERS/RELOCATABLE HOUSING UNITS
Each unit was estimated to cost \$25,000 including furnishings.
Transportation costs (shipping) is estimated to be \$6,000 per unit.
Utilities, M&R and Equipment are based on historical data.

END SOURCE/DERIVATION

\*

BEGIN GRAPHICS 1
PLOT ALTERNATIVES 1 2 3 4 5
END GRAPHICS 1

\*

BEGIN SENSITIVITY ANALYSIS 1

TITLE IS 'Increase of M&R costs for alt 5 vs next lowest cost alt #4'

ALTERNATIVES ARE 4 5 CHANGE 5 5

LIMIT IS 50.00

RANK ALTERNATIVE 4 FIRST

END SENSITIVITY ANALYSIS 1

\*

BEGIN RESULTS

The lowest cost alternative is the trailer/relocatable housing units alternative. It is more than \$22 Million less expensive than any other. A sensitivity analysis which allowed the estimated maintenance costs to increase by as much as 50% was performed. The trailer/relocatable alternative remained the lowest option.

It is recommended that the trailer/locatable building alternative be funded.

END RESULTS

\*

STOP RUN



FILENAME: PANAMAJL 16 DEC 1987

EXECUTIVE SUMMARY REPORT

PAGE 001

PROJECT TITLE : PANAMA HOUSING

PROJECT OBJECTIVE : DETERMINE LEAST COST METHOD OF HOUSING 500 FAM

DISCOUNT RATE : 8.60%
PERIOD OF ANALYSIS: 15 YEARS
START YEAR : 1985
BASE YEAR : 1985

#### ASSUMPTIONS OF THE ANALYSIS:

For the conventional MCA construction alternative (#4), it is assumed that there will be no payment made by the Republic of Panama upon the transfer of the property in 1999.

Complete beneficial occupancy for all alternatives will occur in 1987.

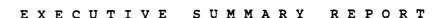
Delivery schedules are assumed to be 60/40% for MCA units and 50/50% for trailer/relocatable units.

Lease and rental Guarantee units will be located on privately owned land.

The discount rate is 8.60%, based on 10 year treasury securities. ALTERNATIVES CONSIDERED FOR THIS ANALYSIS:

There are five alternatives analyzed to meet the requirement of housing 500 families. These are:

- 1. Lease housing through the Republic of Panama the Army would enter into an agreement to lease 500 units from the ROP.
- 2. Build to lease 500 housing units would be constructed by a private developer and leased to the Army.
- 3. Rental guarantee the Army would guarantee 97% occupancy of 500 rental housing units. Occupants receive BAQ/VHA and pay for rent & utilities.
- 4. MCA Construction 500 housing units would be built on-post through conventional MCA construction.
- 5. Purchase trailers/relocatable units the Army would provide housing for 500 families on-post in trailers/locatable housing units.



#### ALTERNATIVES COMPARED (\$ in thousands): ALTERNATIVE NAME EUAC 1 ROP LEASE \$80,157 \$9,710 2 BUILD TO LEASE \$80,790 \$9,787 3 RENT GUARANTEE \$71,997 \$8,722 4 MCA CONSTRUCTION \$69,212 \$8,384 5 TRAILER \$46,395 \$5,620

#### RESULTS AND RECOMMENDATIONS:

The lowest cost alternative is the trailer/relocatable housing units alternative. It is more than \$22 Million less expensive than any other.

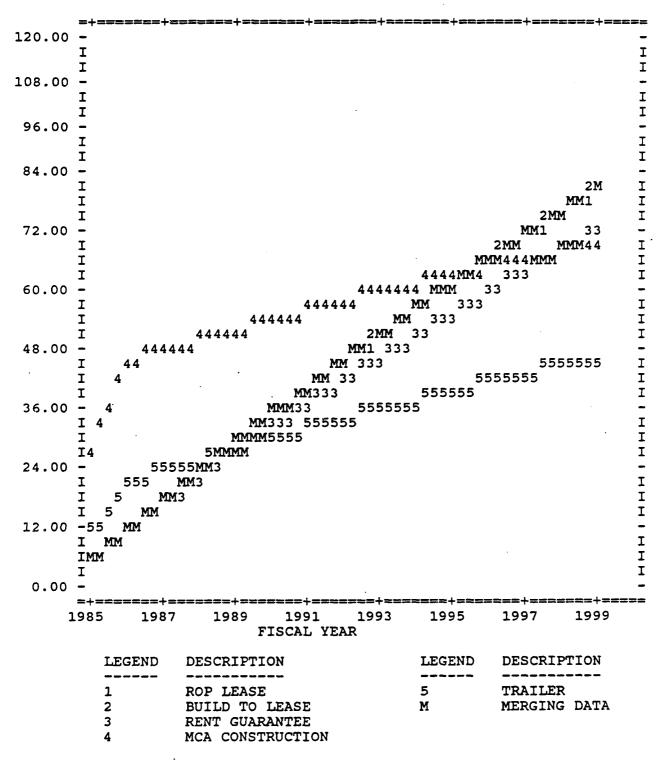
A sensitivity analysis which allowed the estimated maintenance costs to increase by as much as 50% was performed. The trailer/relocatable alternative remained the lowest option.

It is recommended that the trailer/locatable building alternative be funded.



ACTION OFFICER: BOB N
ORGANIZATION : USA-CERL

# E C O N O M I C A N A L Y S I S G R A P H 1 CUMULATIVE NET PRESENT VALUE (\$ in millions)





FILENAME: PANAMAJL 16 DEC 1987

### LIFE CYCLE COST REPORT

PAGE 001

## PROJECT/PROGRAM COSTS (\$ in thousands)

### ALTERNATIVE 1: ROP LEASE

YEAR	LEASE RENT	SERVICES	UTILITIES	MAINTENANCE AND REPAIR	ALLOWANC!
	(01)	(02)	(03)	(04)	
1985	\$0	\$0	\$0	\$0	\$5,943
1986	\$0	\$0	\$0	\$0	\$6,240
1987	\$4,263	\$346	\$2,325	\$488	\$13
1988	\$4,562	\$363	\$2,441	\$512	\$14 <sup>·</sup>
1989	\$4,881	\$381	\$2,563	\$538	\$14
1990	\$5,223	\$400	\$2,691	\$565	\$15
1991	\$5,589	\$420	\$2,826	\$593	\$16
1992	\$5,980	\$441	\$2,967	\$623	\$17
1993	\$6,398	\$463	\$3,116	\$654	\$17
1994	\$6,846	\$486	\$3,271	\$687	\$18
1995	\$7,325	\$511	\$3,435	\$721	\$19
1996	\$7,838	\$536	\$3,607	\$757	\$20
1997	\$8,387	\$563	\$3,787	\$795	\$21
1998	\$8,974	\$591	\$3,976	\$835	\$22
1999	\$9,602	\$621	\$4,175	\$876	\$23
%NPV	51.54	3.76	25.26	5.30	14.14



	TOTAL		CUMULATIVE
YEAR	ANNUAL OUTLAYS	PRESENT VALUE	NET PRESENT VALUE
1985	\$5,943	\$5,703	\$5,703
1986	• •	\$5,514	\$11,217
1987 1988	\$7,435 \$7,892	\$6,050 \$5,913	\$17,267 \$23,180
1989	\$8,377	\$5,779	\$28,959
1990	\$8,894	\$5,651	\$34,610
1991	\$9,444	\$5,524	\$40,134
1992	\$10,028	\$5,401	\$45,535
1993 1994	\$10,648 \$11,308	\$5,281 \$5,165	\$50,816 \$55,983
1995	\$12,011	\$5,051	\$61,032
1996		\$4,941	\$65,973
1997		\$4,832	\$70,805
1998 1999	\$14,398 \$15,297	\$4,727	\$75,532
	VALENT UNIFORM A		9,710 (8.60% D)
EQUI EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI
EXPE EXPE	VALENT UNIFORM A	NNUAL COST = \$9 INFLATION INDEX	9,710 (8.60% DI

EQUIVALENT UNIFORM ANNUAL COST = \$9,710 (8.60% DISCOUNT RATE, 15 YEARS) EXPENSE ITEM 1 USED INFLATION INDEX 1 - MOBILE PROJECTION. EXPENSE ITEMS 2, 3, 4 AND 5 USED INFLATION INDEX 2 - OSD GENERAL.



## LIFE CYCLE COST REPORT PROJECT/PROGRAM COSTS (\$ in thousands)

PAGE 002

ALTERNATIVE 2: BUILD TO LEASE

VEND	ALLOWANCES	LEASE	SERVICES	UTILITIES	MAINTENANCE
YEAR	(01)	RENT (02)	(03)	(04)	(05)
1985	\$5,943	\$0	şo	\$0	\$0
1986	\$6,240	\$0	\$0	\$0	\$0
1987	\$0	\$4,761	\$54	\$2,000	\$637
1988	\$0	\$5,094	\$57	\$2,100	\$669
1989	\$0	\$5,451	\$60	\$2,205	\$702
1990	\$0	\$5,832	\$63	\$2,315	\$738
1991	\$0	\$6,241	\$66	\$2,431	\$774
1992	\$0	\$6,677	\$69	\$2,552	\$813
1993	\$0	\$7,145	\$73	\$2,680	\$854
1994	\$0	\$7,645	\$76	\$2,814	\$897
1995	\$0	\$8,180	\$80	\$2,954	\$941
1996	\$0	\$8,753	\$84	\$3,102	\$988
1997	\$0	\$9,365	\$88	\$3,257	\$1,038
1998	\$0	\$10,021	\$93	\$3,420	\$1,090
1999	\$0	\$10,722	\$97	\$3,591	\$1,144
%NPV	13.88	57.11	0.58	21.56	6.87



YEAR	TOTAL ANNUAL OUTLAYS	PRESENT VALUE	CUMULATIVE NET PRESENT VALUE
1985	\$5,943	\$5,703	\$5,703
1986	\$6,240	\$5,514	\$11,217
1987	\$7,452	\$6,063	\$17,280
1988	\$7,920	\$5,933	\$23,213
1989	\$8,418	\$5,807	\$29,020
1990	\$8,948	\$5,684	\$34,704
1991	\$9,512	\$5,564	\$40,268
1992	\$10,111	\$5,447	\$45,715
1993	\$10,752	\$5,332	\$51,047
1994	\$11,432	\$5,220	\$56,267
1995	\$12,155	\$5,112	\$61,379
1996	\$12,927	\$5,006	\$66,385
1997	\$13,748	\$4,901	\$71,286
1998	\$14,624	\$4,801	\$76,087
1999	\$15,554	\$4,703	\$80,790

EQUIVALENT UNIFORM ANNUAL COST = \$9,787 (8.60% DISCOUNT RATE, 15 YEARS) EXPENSE ITEM 2 USED INFLATION INDEX 1 - MOBILE PROJECTION. EXPENSE ITEMS 1, 3, 4 AND 5 USED INFLATION INDEX 2 - OSD GENERAL.





# LIFE CYCLE COST REPORT PROJECT/PROGRAM COSTS (\$ in thousands)

#### ALTERNATIVE 3: RENT GUARANTEE

PARTICIPATION OF THE PROPERTY OF THE PROPERTY

	ALLOWANCES	LEASE RENT	SERVICES	UTILITIES	TOTAL ANNUAL
YEAR	(01)	(02)	(03)	(04)	OUTLAYS
1985	\$5,943	\$0	\$0	\$0	\$5,943
1986 1987	\$6,240 \$0	\$0 \$4,121	\$0 \$54	\$0 \$2,339	\$6,240 \$6,514
1988	\$0 <b>\$</b> 0	\$4,410	\$5 <b>4</b> \$57	\$2,455	\$6,922
1989	\$0	\$4,719	\$60	\$2,578	\$7,357
1990	\$0	\$5,049	\$63	\$2,707	<b>\$7,819</b>
1991	\$0	\$5,402	\$66	\$2,843	\$8,311
1992	\$0	<b>\$5,780</b>	\$69	\$2,985	\$8,834
1993	\$0	\$6,185	\$73	\$3,134	\$9,392
1994	\$0	\$6,618	\$76	\$3,291	\$9,985
1995	\$0	\$7,081	\$80	\$3,455	\$10,616
1996	\$0	<b>\$7,577</b>	\$84	\$3,628	\$11,289
1997	\$0	\$8,107	\$88	\$3,809	\$12,004
1998	\$0	\$8,675	\$93	\$4,000	\$12,768
1999	\$0	\$9,282	\$97	\$4,200	\$13,579
%NPV	15.58	55.47	0.66	28.29	

YEAR	PRESENT VALUE	CUMULATIVE NET PRESENT VALUE
3005	ĈE 703	¢5 703
1985	\$5,703	\$5,703
1986	\$5,514	\$11,217
1987	\$5,300	\$16,517
1988	\$5,187	\$21,704
1989	\$5,075	\$26,779
1990	\$4,967	\$31,746
1991	\$4,862	\$36,608
1992	\$4,758	\$41,366
1993	\$4,658	\$46,024
1994	\$4,560	\$50,584
1995	\$4,465	\$55,049
1996	\$4,372	\$59,421
1997	\$4,280	\$63,701
1998	\$4,191	\$67,892
1999	\$4,105	\$71,997

EQUIVALENT UNIFORM ANNUAL COST = \$8,722 (8.60% DISCOUNT RATE, 15 YEARS) EXPENSE ITEM 2 USED INFLATION INDEX 1 - MOBILE PROJECTION. EXPENSE ITEMS 1, 3 AND 4 USED INFLATION INDEX 2 - OSD GENE AL.

PAGE 004

## PROJECT/PROGRAM COSTS (\$ in thousands)

ALTERNATIVE 4: MCA CONSTRUCTION

	ALLOWANCES	DESIGN AND	UTILITIES	MAINTENANCE AND	EQUIPMENT
YEAR	(01)	CONSTRUCTION (02)	(03)	REPAIR (04)	(05)
1985	\$5,943	\$22,279	\$0	\$0	\$42:
1986	\$2,496	\$15,945	\$1,135	\$174	\$30
1987	\$0 .	\$0	\$1,986	\$305	\$1:
1988	\$0	\$0	\$2,085	\$320	\$1.
1989	\$0	\$0	\$2,190	\$336	\$1.
1990	\$0	\$0	\$2,299	\$353	\$1:
1991	\$0	\$0	\$2,414	\$371	\$1,
1992	\$0	\$0	\$2,535	\$389	\$1
1993	\$0	\$0	\$2,662	\$409	\$1.
1994	\$0	\$0	\$2,795	\$429	\$18
1995	\$0	\$0	\$2,934	\$451	\$19
1996	\$0	\$0	\$3,081	\$473	\$2(
1997	\$0	\$0	\$3,235	\$497	\$2:
1998	\$0	\$0	\$3,397	\$522	\$2:
1999	\$0	\$0	\$3,567	\$548	\$2.
%NPV	11.43	51.25	26.44	4.06	1.1.

	SERVICES	TOTAL		CUMULAT
YEAR		ANNUAL OUTLAYS	PRESENT VALUE	NET PRES
LEM	(06)	00111110	VII.202	***************************************
1985	\$0	\$28,651	\$27,493	\$27,
1986	\$244	\$20,294	\$17,933	\$45,
1987	\$427	\$2,731	\$2,222	\$47,
1988	\$448	\$2,867	\$2,148	\$49,
1989	\$471	\$3,011	\$2,078	\$51,
1990	\$494	\$3,161	\$2,008	\$53,
1991	\$519	\$3,320	\$1,942	\$55,
1992	\$545	\$3,486	\$1,878	\$57,
1993	\$572	\$3,660	\$1,816	\$59,
1994	\$601	\$3,843	\$1,754	\$61,
1995 1996	\$631 \$662	\$4,035	\$1,697 \$1,641	\$62, \$64,
1996	\$662 \$696	\$4,236 \$4,449	\$1,586	\$66,
1998	\$730	\$4,449	\$1,533	\$67,
1999	\$767	\$4,905	\$1,483	\$69,
 %NPV	5.69			

EQUIVALENT UNIFORM ANNUAL COST = \$8,384 (8.60% DISCOUNT RATE, 15 YEARS) EXPENSE ITEM 2 USED INFLATION INDEX 1 - MOBILE PROJECTION. EXPENSE ITEMS 1, 3, 4, 5 AND 6 USED INFLATION INDEX 2 - OSD GENERAL.





## LIFE CYCLE COST REPORT

PAGE 005

## PROJECT/PROGRAM COSTS (\$ in thousands)

## ALTERNATIVE 5: TRAILER

	ALLOWANCES	DESIGN AND	SERVICES	UTILITIES	MAINTENANCE AND
YEAR	(01)	CONSTRUCTION (02)	(03)	(04)	REPAIR (05)
1985	\$2,972	\$6,465	\$0	\$0	\$0
1986	\$1,560	\$6,918	\$203	\$865	\$291
1987	\$0	\$0	\$427	\$1,817	\$610
1988	\$0	\$0	\$448	\$1,907	\$641
1989	\$0	\$0	\$471	\$2,003	\$673
1990	\$0	\$0	\$494	\$2,103	\$706
1991	\$0	\$0	\$519	\$2,208	\$742
1992	\$0	\$0	\$545	\$2,318	<b>\$779</b>
1993	\$0	\$0	\$572	\$2,434	\$818
1994	\$0	\$0	\$601	\$2,556	\$858
1995	\$0	\$0	\$631	\$2,684	\$901
1996	\$0	\$0	\$662	\$2,818	\$1,388
1997	\$0	\$0	\$696	. \$2,959	\$1,457
1998	\$0	\$0	· \$730	\$3,107	\$1,530
1999	\$0	\$0	\$767	\$3,262	\$1,607
%NPV	9.12	26.55	8.41	35.75	13.41



YEAR	TRANSPORT	TOTAL ANNUAL OUTLAYS (06)	PRESENT VALUE	CUMULATIVE NET PRESENT VALUE
1005	^	A11 100	£10.654	610 654
1985	\$1,665	\$11,102	\$10,654	\$10,654
1986	\$1,748	\$11,585	\$10,237	\$20,891
1987	\$0	\$2,854	\$2,321	\$23,212
1988	\$0	\$2,996	\$2,245	\$25,457
1989	\$0	\$3,147	\$2,171	\$27,628
1990	\$0	\$3,303	\$2,099	\$29,727
1991	\$0	\$3,469	\$2,030	\$31,757
1992	\$0	\$3,642	\$1,962	\$33,719
1993	\$0	\$3,824	\$1,896	\$35,615
1994	\$0	\$4,015	\$1,833	\$37,448
1995	\$0	\$4,216	\$1,773	\$39,221
1996	\$0	\$4,868	\$1,885	\$41,106
1997	\$0	\$5,112	\$1,823	\$42,929
1998	\$0	\$5,367	\$1,762	\$44,691
1999	\$0	\$5,636	\$1,704	\$46,395
%NPV	6.77			

Principles comme exposure exercises arrests as

EQUIVALENT UNIFORM ANNUAL COST = \$5,620 (8.60% DISCOUNT RATE, 15 YEARS)

EXPENSE ITEM 2 USED INFLATION INDEX 1 - MOBILE PROJECTION. EXPENSE ITEMS 1, 3, 4, 5 AND 6 USED INFLATION INDEX 2 - OSD GENERAL.



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#### LIFE CYCLE COST REPORT

SOURCE AND DERIVATION OF COSTS AND BENEFITS:

Cost estimation was performed by the estimators in the District Office.

Costs were made in 1985 dollars. Maintenance, repair, utilities, equipment and services costs estimates were made by the DEH staff with the assistance of the district office.

Two inflation indices were used. One was developed by the Mobile DO and the other was published by OSD.

ALTERNATIVE 1 ROP LEASE

Lease rent, services, utilities, and M&R costs are specified in the lease contract and will increase with inflation.

ALTERNATIVE 2 BUILD TO LEASE

Lease rent, services, utilities, and M&R costs are specified in the lease contract and will increase with inflation.

ALTERNATIVE 3 RENTAL GUARANTEE

Lease reflects estimated BAQ/VHA payments. Services, utilities and M&R are specified in the Lease Contract.

ALTERNATIVE 4 MCA CONSTRUCTION

MCA construction cost was developed by use of the Tri-Service cost model.  $(\$71,888 \text{ per unit}) \times 500 \text{ units} = \$35,944,000$ 

Utilities costs are based on historical data, \$3,516 per unit.

M&R costs are also based on historical data, \$540 per unit/year.

Service costs reflect garbage collection and entomological services. This cost is based on current annual costs per unit in Panama @ \$756/unit/year.

Equipment costs reflect washer/dryer \$422 range \$722 refrigerator \$250

\$1,394 per unit

 $$1394 \times 500 \text{ units} = $697,000$ 

Maintenance and repair of equipment was estimated to average \$23/unit/year.

ALTERNATIVE 5 TRAILERS/RELOCATABLE HOUSING UNITS Each unit was estimated to cost \$25,000 including furnishings. Transportation costs (shipping) is estimated to be \$6,000 per unit.

Utilities, M&R and Equipment are based on historical data.



FILENAME: PANAMAJL

STATE TO STATE OF THE STATE OF

16 DEC 1987

RANKING SENSITIVITY ANALYSIS (\$ in thousands)

PAGE 001

SENSITIVITY ANALYSIS NUMBER .... 01

TITLE ...... Increase of M&R costs for alt 5 vs next lowest cost alt #4

ALLOWABLE CHANGE ..... 50.00 PERCENT

THIS SENSITIVITY ANALYSIS CHECKS FOR ALTERNATIVE 4 TO BE RANKED FIRST AS A RESULT OF CHANGES IN THE EXPENSE ITEM(S) LISTED BELOW:

ALTERNATIVE	EXPENSE ITEM(S)
4	** NOTHING CHANGED **
5	5

THE SELECTED EXPENSE ITEMS ARE ALLOWED TO VARY FROM A VALUE OF 100% LESS THAN THEIR INPUT VALUE TO 50.00% MORE THAN THEIR INPUT VALUE.

ALTERNATIVE	NET PRESENT VALUE
5	\$46,395
4	\$69,212

INSENSITIVE WITHIN THE ALLOWABLE PERCENT OF CHANGE.





#### INPUT LISTING LINES 000101-000150

0101: 2\*0.00 13\*1770.00 0102: EXPENSE ITEM 5 IS 'MAINTENANCE: : ' & 0103: 2\*0.00 13\*564.00 0104: INFLATION FACTORS ARE & 0105: 1\*2 1\*1 3\*2 0106: DISCOUNT FACTORS ARE & 0107: 5\*2 0108: END ALTERNATIVE 0109: \* 0110: \* 0111: BEGIN ALTERNATIVE 3 0112: ALTERNATIVE NAME IS 'RENT GUARANTEE' 0113: ALTERNATIVE DESCRIPTION IS & 0114: 'GUARANTEE RENT TO BUILDER/OWNER' 0115: ECONOMIC LIFE IS 15 YEARS 0116: EXPENSE ITEM 1 IS 'ALLOWANCES: : ' & 0117: 2\*5800.00 13\*0.00 0118: EXPENSE ITEM 2 IS 'LEASE: RENT: ' & 0119: 2\*0.00 13\*3480.00 0120: EXPENSE ITEM 3 IS 'SERVICES: : ' & 0121: 2\*0.00 13\*48.00 0122: EXPENSE ITEM 4 IS 'UTILITIES: : ' & 0123: 2\*0.00 13\*2070.00 0124: INFLATION FACTORS ARE & 0125: 1\*2 1\*1 2\*2 0126: DISCOUNT FACTORS ARE & 0127: 4\*2 0128: END ALTERNATIVE 3 0129: \* 0130: \* 0131: BEGIN ALTERNATIVE 0132: ALTERNATIVE NAME IS 'MCA CONSTRUCTION' 0133: ALTERNATIVE DESCRIPTION IS & 0134: 'CONVENTIONAL AND MCA CONSTRUCTION' & 0135: 'NO PAYMENT BY ROP UPON TRANSFER OF PROPERTY' 0136: ECONOMIC LIFE IS 15 YEARS 0137: EXPENSE ITEM 1 IS 'ALLOWANCES: : ' & 0138: 1\*5800.00 1\*2320.00 13\*0.00 0139: EXPENSE ITEM 2 IS ' DESIGN: AND: CONSTRUCTION! & 0140: 1\*21538.00 1\*14406.00 13\*0.00 0141: EXPENSE ITEM 3 IS 'UTILITIES: : ' & 0142: 1\*0.00 1\*1054.80 13\*1758.00 0143: EXPENSE ITEM 4 IS 'MAINTENANCE: AND: REPAIR' & 0144: 1\*0.00 1\*162.00 13\*270.00 0145: EXPENSE ITEM 5 IS 'EQUIPMENT: : ' & 0146: 1\*418.20 1\*278.80 13\*11.50 0147: EXPENSE ITEM 6 IS 'SERVICES: : ' & 0148: 1\*0.00 1\*226.80 13\*378.00 0149: INFLATION FACTORS ARE &



0150: 1\*2 1\*1 4\*2

#### INPUT LISTING LINES 000151-000200 0151: DISCOUNT FACTORS ARE &

0153: END ALTERNATIVE 0154: \* 0155: \*

0152: 6\*2

0156: BEGIN ALTERNATIVE

0157: ALTERNATIVE NAME IS 'TRAILER' 0158: ALTERNATIVE DESCRIPTION IS &

0159: 'TRAILER/RELOCATABLE' &

0160: 'CONSTRUCTION ON LAND AREAS UNDER US CONTROL UNIT'

0161: ECONOMIC LIFE IS 15 YEARS

0162: EXPENSE ITEM 1 IS 'ALLOWANCES: : ' &

0163: 1\*2900.00 1\*1450.00 13\*0.00

0164: EXPENSE ITEM 2 IS ' AND: CONSTRUCTION' & DESIGN:

0165: 2\*6250.00 13\*0.00

0166: EXPENSE ITEM 3 IS 'SERVICES: : ' &

0167: 1\*0.00 1\*189.00 13\*378.00

0168: EXPENSE ITEM 4 IS 'UTILITIES: : ' &

0169: 1\*0.00 1\*804.00 13\*1608.00

0170: EXPENSE ITEM 5 IS 'MAINTENANCE: AND: REPAIR' &

0171: 1\*0.00 1\*270.00 9\*540.00 4\*792.00

0172: EXPENSE ITEM 6 IS 'TRANSPORT: : ' &

0173: 2\*1625.00 13\*0.00

0174: INFLATION FACTORS ARE &

0175: 1\*2 1\*1 4\*2

0176: DISCOUNT FACTORS ARE &

0177: 6\*2

0178: END ALTERNATIVE

0179: \*

SSSI TRANSPORT CONTRACTOR OF THE SAME STATES OF THE

0180: \*

0181: BEGIN SOURCE/DERIVATION

0182: Cost estimation was performed by the estimators in the District Office.

0183: Costs were made in 1985 dollars. Maintenance, repair, utilities,

0184: equipment and services costs estimates were made by the DEH staff with t

0185: assistance of the district office.

0186:

0187: Two inflation indices were used. One was developed by the Mobile DO and 0188: other was published by OSD.

0189:

0190: ALTERNATIVE 1 ROP LEASE

0191: Lease rent, services, utilities, and M&R costs are specified in the leas

0192: contract and will increase with inflation.

0193:

0194: ALTERNATIVE 2 BUILD TO LEASE

0195: Lease rent, services, utilities, and M&R costs are specified in the leas

0196: contract and will increase with inflation.

0197:

0198: ALTERNATIVE 3 RENTAL GUARANTEE

0199: Lease reflects estimated BAQ/VHA payments. Services, utilities and M&R

0200: specified in the Lease Contract.



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#### INPUT LISTING LINES 000001-000050

- 0001: \*
  0002: \* VERSION 1.0
  0003: \*
  0004: \*
  0005: PROJECT TITLE IS 'PANAMA HOUSING'
  0006: ACTION OFFICER IS 'BOB N'
  0007: ORGANIZATION IS 'USA-CERL'
- 0008: OBJECTIVE IS 'DETERMINE LEAST COST METHOD OF HOUSING 500 FAM'
- 0009: \*
- 0011: BEGIN ASSUMPTIONS
- 0012: For the conventional MCA construction alternative (#4), it is assumed 0013: that there will be no payment made by the Republic of Panama upon the
- 0014: transfer of the property in 1999.
- 0015: 0016: Complete beneficial occupancy for all alternatives will occur in 1987.
- 0017: 0018: Delivery schedules are assumed to be 60/40% for MCA units and 50/50% for
- 0019: trailer/relocatable units.
- 0020: 0021: Lease and rental Guarantee units will be located on privately owned land 0022:
- 0023: The discount rate is 8.60%, based on 10 year treasury securities.
- 0024:
- 0025: END ASSUMPTIONS
- 0026: \*

0031:

- 0027: \*
- 0028: BEGIN DISCUSSION OF ALTERNATIVES
- 0029: There are five alternatives analyzed to meet the requirement of housing 0030: families. These are:
- 0032: 1. Lease housing through the Republic of Panama the Army would enter : 0033: an agreement to lease 500 units from the ROP.
- 0034: 0035: 2. Build to lease - 500 housing units would be constructed by a private 0036: developer and leased to the Army.
- 0037: 0038: 3. Rental guarantee - the Army would guarantee 97% occupancy of 500 rent 0039: housing units. Occupants receive BAQ/VHA and pay for rent & utilities.
- 0040: 0041: 4. MCA Construction - 500 housing units would be built on-post through 0042: conventional MCA construction.
- 0043: 0044: 5. Purchase trailers/relocatable units - the Army would provide housing 0045: for 500 families on-post in trailers/locatable housing units.
- 0047: END DISCUSSION OF ALTERNATIVES
- 0048: \*
- 0049: \*
- 0050: BEGIN DATA



## INPUT LISTING LINES 000051-000100 0051: PERIOD OF ANALYSIS IS 15 YEARS

0052: START YEAR IS 1985

0053: BASE YEAR IS 1985 0054: DISCOUNT RATE IS 8.60

0055: GLOBAL DISCOUNTING CONVENTION IS 2

0056: INFLATION INDEX 1 IS 'MOBILE PROJECTION' &

0057: 15\*0.07

0058: INFLATION INDEX 2 IS 'OSD GENERAL' &

0059: 15\*0.05

0060: INFLATION INDEX 3 IS 'NO INFLATION' &

0061: 15\*0.00

0062: SECONDARY ANALYSIS

0063: COST STORED IN 'THOUSANDS OF' DOLLARS

0064: END DATA

**)065: \*** 0066: \*

0067: BEGIN ALTERNATIVE 1

0068: ALTERNATIVE NAME IS 'ROP LEASE'

0069: ALTERNATIVE DESCRIPTION IS &

0070: 'LEASE HOUSING THROUGH THE REPUBLIC OF PANAMA'

0071: ECONOMIC LIFE IS 15 YEARS

0072: EXPENSE ITEM 1 IS 'LEASE:RENT: ' &

0073: 2\*0.00 13\*3600.00

0074: EXPENSE ITEM 2 IS 'SERVICES: : ' &

0075: 2\*0.00 13\*306.00

0076: EXPENSE ITEM 3 IS 'UTILITIES: : ' &

0077: 2\*0.00 13\*2058.00

0078: EXPENSE ITEM 4 IS 'MAINTENANCE: AND: REPAIR' &

0079: 2\*0.00 13\*432.00

0080: EXPENSE ITEM 5 IS 'ALLOWANCES: : ' &

0081: 2\*5800.00 13\*11.50

0082: INFLATION FACTORS ARE &

0083: 1\*1 4\*2

0084: DISCOUNT FACTORS ARE &

0085: 5\*2

0086: END ALTERNATIVE

0087: \*

0088: \*

0089: BEGIN ALTERNATIVE 2

0090: ALTERNATIVE NAME IS 'BUILD TO LEASE'

0091: ALTERNATIVE DESCRIPTION IS &

0092: 'BUILD HOUSING TO LEASE'

0093: ECONOMIC LIFE IS 15 YEARS

0094: EXPENSE ITEM 1 IS 'ALLOWANCES: : ' &

0095: 2\*5800.00 13\*0.00

0096: EXPENSE ITEM 2 IS 'LEASE: RENT: ' &

0097: 2\*0.00 13\*4020.00

0098: EXPENSE ITEM 3 IS 'SERVICES: : ' &

0099: 2\*0.00 13\*48.00

0100: EXPENSE ITEM 4 IS 'UTILITIES: : ' &



#### INPUT LISTING LINES 000201-000250

```
0201:
0202: ALTERNATIVE 4 MCA CONSTRUCTION
0203: MCA construction cost was developed by use of the Tri-Service cost mode
        (\$71,888 \text{ per unit}) \times 500 \text{ units} = \$35,944,000
0205: Utilities costs are based on historical data, $3,516 per unit.
0206: M&R costs are also based on historical data, $540 per unit/year.
0207: Service costs reflect garbage collection and entomological services.
0208: cost is based on current annual costs per unit in Panama @ $756/unit/ye
0209: Equipment costs reflect
                                   washer/dryer
                                                    $422
0210:
                                   range
                                                    $722
0211:
                                   refrigerator
                                                    $250
0212:
0213:
                                                  $1,394 per unit
0214:
           $1394 X 500 units = $697,000
0215: Maintenance and repair of equipment was estimated to average $23/unit/y
0216:
0217: ALTERNATIVE 5 TRAILERS/RELOCATABLE HOUSING UNITS
0218: Each unit was estimated to cost $25,000 including furnishings.
0219: Transportation costs (shipping) is estimated to be $6,000 per unit.
0220: Utilities, M&R and Equipment are based on historical data.
0222:
0223:
0224:
0225:
0226:
0227:
0228: END SOURCE/DERIVATION
0229: *
0230: *
0231: BEGIN GRAPHICS 1
0232: PLOT ALTERNATIVES 1 2 3 4 5
0233: END GRAPHICS 1
0234: *
0235: *
0236: BEGIN SENSITIVITY ANALYSIS 1
0237: TITLE IS 'Increase of M&R costs for alt 5 vs next lowest cost alt #4'
0238: ALTERNATIVES ARE 4 5
0239: CHANGE 5 5
0240: LIMIT IS 50.00
0241: RANK ALTERNATIVE 4 FIRST
0242: END SENSITIVITY ANALYSIS 1
0243: *
0244: *
0245: BEGIN RESULTS
0246: The lowest cost alternative is the trailer/relocatable housing units
0247: alternative. It is more than $22 Million less expensive than any other
0248: A sensitivity analysis which allowed the estimated maintenance costs to
0249: increase by as much as 50% was performed. The trailer/relocatable
0250: alternative remained the lowest option.
```



RESTRUCTION OF THE PROPERTY OF

INPUT LISTING
LINES 000251-000300

0251:
0252: It is recommended that the trailer/locatable building alternative
0253:
0254: END RESULTS
0255: \*
0256: \*
0257: STOP RUN

\*\* END OF RUN \*\* 0252: It is recommended that the trailer/locatable building alternative be fun

## CASE STUDY CONSOLIDATED MAINTENANCE FACILITY

PROJECT TITLE IS & 'Consolidated Maintenance Facility' ACTION OFFICER IS & 'Bernice Ellis' ORGANIZATION IS & 'DEH, Fort Bowie' OBJECTIVE IS & 'Provide 210,000 sf of maintenance shops.' BEGIN ASSUMPTIONS Per regulatory guidelines, a dicount rate of 10%-is used. Training is 1% of equipment acquistion cost. Equipment maintenance is 4.5% of acquisition cost. New construction will take 3 years. Equipment life is 12 years. END ASSUMPTIONS BEGIN DISCUSSION OF ALTERNATIVES The following alternatives were considered in this economic analysis: NEW CONSTRUCTION: Construction of a consolidated maintenance facility. This alternative replaces the existing vintage temporary buildings and provides the necessary 210,000 sf of maintenance space. STATUS QUO (MODIFIED): Upgrade the existing facilities. Currently, 28 separate dispersed facilities exist spread over a 5 mile radius. These facilities will be modified to provide the necessary maintenance space. END DISCUSSION OF ALTERNATIVES BEGIN DATA PERIOD OF ANALYSIS IS 25 YEARS START YEAR IS 1989 BASE YEAR IS 1989 DISCOUNT RATE IS 10.00 GLOBAL DISCOUNTING CONVENTION IS 2 PRIMARY ANALYSIS COST STORED IN 'ACTUAL' DOLLARS END DATA BEGIN ALTERNATIVE 1 ALTERNATIVE NAME IS 'Upgrade Status Quo' ALTERNATIVE DESCRIPTION IS & 'Modify and upgrade existing facilities.' ECONOMIC LIFE IS 25 YEARS EXPENSE ITEM 1 IS 'Initial:Upgrade: ' & 2\*4823675.00 23\*0.00 EXPENSE ITEM 2 IS 'Equipment: : ' & 1\*3540684.00 10\*0.00 1\*3540684.00 13\*0.00 EXPENSE ITEM 3 IS 'Training: : 1\*25000.00 24\*0.00 EXPENSE ITEM 4 IS 'Annual:M & R: ' & 4\*62960.00 21\*251835.00 EXPENSE ITEM 5 IS 'Annual: Utilities: ' & 25 \* 178012.00 EXPENSE ITEM 6 IS 'Personnel:Cost: ' & 25\*9301600.00 EXPENSE ITEM 7 IS 'MHE:Fuel: ' &

EXPENSE ITEM 8 IS 'Depot:Transport:Cost' &

25\*5000.00

25\*103443.00

25\*26440.00 EXPENSE ITEM 10 IS 'Equipment: Maintenance: ' 1\*0.00 24\*297283.00 INFLATION FACTORS ARE & 10 \*0 DISCOUNT FACTORS ARE & 10\*2 RECURRING COSTS ARE & 4 5 6 7 8 9 10 REFURBISHMENT COSTS ARE & END ALTERNATIVE 1 BEGIN ALTERNATIVE 2 ALTERNATIVE NAME IS 'New Construction' ALTERNATIVE DESCRIPTION IS & 'Construction of a consolidated maintenance' & 'facility.' ECONOMIC LIFE IS 25 YEARS EXPENSE ITEM 1 IS 'Initial:Construction:Cost' & 3\*9000000.00 22\*0.00 EXPENSE ITEM 2 IS 'Equipment: : ' & 1\*0.00 2\*3123275.00 10\*0.00 2\*3123275.00 10\*0.00 EXPENSE ITEM 3 IS 'Training: : ' & 1\*0.00 2\*25000.00 22\*0.00 EXPENSE ITEM 4 IS 'Annual: M & R: ' & 3\*62960.00 22\*234668.00 EXPENSE ITEM 5 IS 'Annual: Utilities: ' & 3\*178012.00 22\*242030.00 EXPENSE ITEM 6 IS 'Personnel: : ' & 3\*9301600.00 22\*5699175.00 EXPENSE ITEM 7 IS 'MHE: Fuel: ' & 3\*5000.00 22\*1800.00 EXPENSE ITEM 8 IS 'Vehicle: Usage: ' & 3\*26440.00 22\*14730.00 EXPENSE ITEM 9 IS 'Equipment: Maintenance: ' & 3\*297283.00 22\*312570.00 INFLATION FACTORS ARE & 9\*0 DISCOUNT FACTORS ARE & 9\*2 SALVAGE VALUE IS 17453984.00 RECURRING COSTS ARE & 456789 NEW COSTS ARE & 1 2 3 UND ALTERNATIVE 2 BEGIN SOURCE/DERIVATION STATUS QUO: Initial upgrade costs were estimated based on \$50.00 per square foot. Maintenance and repair was estimated at \$1.31 per square foot. Utilities estimates were obtained from DA Facilities Engineering and Housing Annual Summary of Operations, the factor was \$.92 per sq. ft. Personnel costs were estimated as follows:  $$24,047.00 \times 283 \text{ employees} = $6,805,301$ 

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\$24,047.00 x 283 employees = \$6,805,301 \$32,062.00 x 50 contractors = \$1,603,100 overtime = \$ 893,199 Total \$9,301,600

Fuel costs were estimated at \$.84 per gallon consumed. Vehicle usage costs are based on historical data.

NEW CONSTRUCTION: Initial construction cost data was obtained from 415-17.

 $$24,047.15 \times 237 \text{ employees} = $5,699,175$ 

Maintenance and repair was estimated at \$1.12 per sq. ft. Utilities costs were estimated at \$1.15 per sq. ft. Venicle usage was estimated to be 56% less than status quo. Fuel costs were estimated at \$0.84 per gallon consumed. END SQURCE/DERIVATION

#### BEGIN RESULTS

The new construction alternative was found to be the most economical over the 25 year period of analysis. This alternative is recommended to provide the necessary 210,000 sf of maintenance space to ensure mission training and readiness.

END RESULTS

STOP RUN

C>

FILENAME: PRIMAF

03 DEC 198

PAGE ØC

#### EXECUTIVE SUMMARY REPORT

PROJECT TITLE : Consolidated Maintenance Facility

PROJECT OBJECTIVE : Provide 210,000 sf of maintenance shops.

DISCOUNT RATE : 10.00%
PERIOD OF ANALYSIS: 25 YEARS
START YEAR : 1989
BASE YEAR : 1989

#### ASSUMPTIONS OF THE ANALYSIS:

Per regulatory guidelines, a dicount rate of 10% is used.

Training is 1% of equipment acquistion cost.

Equipment maintenance is 4.5% of acquisition cost:

New construction will take 3 years.

Equipment life is 12 years.

#### ALTERNATIVES CONSIDERED FOR THIS ANALYSIS:

The following alternatives were considered in this economic analysis:

NEW CONSTRUCTION: Construction of a consolidated maintenance facility. This alternative replaces the existing vintage temporary buildings and provides the necessary 210,000 sf of maintenance space.

STATUS QUO (MODIFIED): Upgrade the existing facilities. Currently, 28 separate dispersed facilities exist spread over a 5 mile radius. These facilities will be modified to provide the necessary maintenance space.

#### ALTERNATIVES COMPARED:

ALTERNATIVE NAME	NPV.	EUAC	SIR	DPP	
1 Upgrade Status Quo	\$109,210,293	\$12,031,487			
2 New Construction	\$99,427,630	\$10.953.750	1.34	11.5 YEARS	

#### RESULTS AND RECOMMENDATIONS:

The new construction alternative was found to be the most economical over the 25 year period of analysis. This alternative is recommended to provide the necessary 210,000 sf of maintenance space to ensure mission training and readiness.

ACTION OFFICER: Bernice Ellis ORGANIZATION : DEH, Fort Bowie

FILENAME: PRIMAR'

03 DEC 1987

### LIFE CYCLE COST REPORT

PAGE 00

### PROJECT/PROGRAM COSTS

ALTERNATIVE 1: Upgrade Status Quo

	Initial Upgrade	Equipment	Training	Annual M & R	Annual Utilities
YEAR					
	(Ø1)	(02)	(03)	(04)	(05)
1989	\$4,823,675	\$3,540,684	\$25,000	\$62,960	\$178,01
1990	\$4,823,675	\$0	\$0	\$62,960	\$178,01
1991	\$0	\$0	\$0	\$62,960	\$178,01
1992	\$0	\$0	\$0	\$62,960	\$178,01
1993	\$0	\$⊘	<b>\$</b> 0	\$251,835	\$178,01
1994	\$0	\$0	\$0	\$251,835	\$178,01
1995	\$Ø	\$0	\$0	\$251,835	\$178,01
1996	\$0	\$0	\$0	\$251,835	\$178,01
1997	\$0	\$Ø	\$0	\$251,835	\$178,01
1998	\$0	<b>3</b> Ø	\$0	\$251,835	\$178,01
1999	\$0	\$Ø	\$ 2	\$251,835	\$178,01
2000	\$0	\$3,540,684	\$0	\$251,835	\$178,01
2001	\$0	\$ @	\$0	\$251,835	\$178,01
2002	\$0	\$⊘	\$0	\$251,835	\$178,01
2003	\$0	\$0	\$ 0	\$251,835	\$178,01
2004	ହେ	\$0	\$0	\$251,835	\$178,01
2005	\$0	\$0	\$0	\$251,835	\$178,01
2006	\$0	\$ 0	\$⊘	\$251,835	\$178,01
2007	\$0	\$0	\$0	\$251,835	\$178,01
2008	\$0	<b>\$</b> 0	\$0	\$251,835	\$178,01
2009	\$0	\$0	· \$Ø	\$251,835	\$178,01
2010	\$0	\$0	\$0	\$251,835	\$178,01
2011	\$0	\$0	\$ Ø	\$251,835	\$178,01
2012	\$0	\$0	\$0	\$251,835	\$178,01
2013	\$0	\$0	\$0	\$251,835	\$178,01
*NPV	8.04	4.17	0.02	1.62	1.5

### IFE CYCLE COST REPORT

#### PROJECT/PROGRAM COSTS

### ALTERNATIVE 1: Upgrade Status Quo

	Personnel	MHE	Depot	Vehicle	Equipment
	Cost	Fuel	Transport	Usage	Maintenance
YEAR			Cost		
	(06)	(07)	(88)	(09)	(10)
1989	\$9,301,600	\$5,000	\$103,443	\$26,440	:
1990	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
1991	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
1992	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
1993	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
1994	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
1995	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
1996	59,301,600	\$5,000	\$103,443	\$26,440	\$297,28
1997	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
1998	\$9,3 <b>01,600</b>	\$5,000	\$103,443	\$26,440	\$297,28
1999	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
2000	19,301,600	\$5,000	\$103,443	\$26,440	\$297,20
2001	59,301,600	\$5,000	\$103,443	\$26,440	<b>\$297,2</b> :
2002	٤9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
2003	\$9,301,600	\$5,000	\$103,443	\$26,440	<b>\$297,2</b> ;
2004	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,20
2005	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
2006	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
2007	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
2008	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
2009	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
2010	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,28
2011	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
2012	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,20
2013	\$9,301,600	\$5,000	\$103,443	\$26,440	\$297,2
*NPV	81.08	0.04	0.90	0.23	2

### PROJECT/PROGRAM COSTS

ALTERNATIVE 1: Upgrade Status Quo

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YEAR	TOTAL ANNUAL OUTLAYS	PRESENT VALUE	CUMULATIVE NET PRESENT VALUE
1989	\$18,066,814	\$17,226,033	\$17,226,033
1990	\$14,798,413	\$12,827,031	\$30,053,064
1991	\$9,974,738	\$7,859,951	\$37,913,015
1992	\$9,974,738	\$7,145,408	\$45,058,423
1993	\$10,163,613	\$6,618,826	\$51,677,249
1994	\$10,163,613	\$6,017,116.	\$57,694,365
1995	\$10,163,613	\$5,470,106	\$63,164,471
1996	\$10,163,613	\$4,972,822	\$68,137,293
1997	\$10,163,613	\$4,520,748	\$72,658,041
1998	\$10,163,613	\$4,109,770	\$76,767,811
1999	\$10,163,613	\$3,736,155	\$80,503,966
2000	\$13,704,297	\$4,579,742	\$85,083,708
2001	\$10,163,613	£3,087,732	\$88,171,440
2002	\$10,163,613	\$2,807,028	\$90,978,468
2003	\$10,163,613	\$2,551,844	\$93,530,312
2004	\$10,163,613	\$2,319,852	\$95,850,170
2005	\$10,163,613	\$2,108,964	\$97,959,134
2006	\$10,163,613	\$1,917,239	\$99,876,373
2007	\$10,163,613	\$1,742,944	\$101,619,317
2008	\$10,163,613	\$1,584,495	\$103,203,812
2009	\$10,163,613	\$1,440,451	\$104,644,263
2010	\$10,163,613	\$1,309,500	\$105,953,763
2011	\$10,163,613	\$1,190,453	\$107,144,216
2012	\$10,163,613	\$1,082,231	\$108,226,447
2013	\$10,163,613	\$983,846	\$109,210,293

EQUIVALENT UNIFORM ANNUAL COST = \$12,031,487 (10.00% DISCOUNT RAYE, 25 YEARS)

### LIFE CYCLE COST REPORT

### PROJECT/PROGRAM COSTS

### ALTERNATIVE 2: New Construction

YEAR	Initial Construction Cost	Equipment	Training	Annual M & R	Annual Utilities
	(01)	(02)	(03)	(04)	(05)
1989	\$9,000,000	\$0	\$0	\$62,960	\$178,0
1990	\$9,000,000	\$3,123,275	\$25.000	\$62,960	\$178,0
1991	\$9,000,000	\$3,123,275	\$25,000	\$62,960	\$178,0
1992	\$0	\$0	\$0	\$234,668	\$242,0
1993	\$0	\$0	\$0	\$234,668	\$242,0
1994	\$0	\$0	\$0	\$234,668	\$242,0
1995	\$ 0	\$0	\$0	\$234,668	\$242,0
1996	\$0	\$0	\$2	\$234,668	\$242,0
1997	\$0	\$0	\$0	\$234,668	\$242,0
1998	\$0	\$0	\$0	\$234,668	\$242,0
1999	\$Ø	\$0	\$0	\$234,668	\$242,0
2000	\$0	\$0	20	\$234,668	\$242,0
2001	\$0	\$0	\$0	\$234,668	\$242,0
2002	\$Ø	\$3,123,275	\$0	\$234,668	\$242,0
2003	\$0	\$3,123,275	20	\$234,668	\$242,0
2004	\$0	\$0	20	. \$234,668	\$242,0
2005	\$0	\$0	20	\$234,668	\$242,0
2006	\$0	\$0	20	\$234,668	\$242,0
2007	\$0	\$0	20	\$234,668	\$242,0
2008	\$0	\$0	\$0	\$234,668	\$242,0
2009	\$0	\$0	\$0	\$234,668	\$242,0
2010	\$ ⊘	\$0	20	\$234,668	\$242,0
2011	\$⊘	\$0	20	\$234,668	\$242,0
2012	\$0	\$ 2	20	\$234,668	\$242,0
2013	\$0	\$0	\$0	\$234,668	\$242,0
*NPV	23.61	6.85	0.04	1.80	2.



### LIFE CYCLE COST REPORT PAGE 0

#### PROJECT/PROGRAM COSTS

#### ALTERNATIVE 2: New Construction

	Personnel	MHE fuel	Vehicle Usage	Equipment Maintenance	TOTAL
YEAR	(06)	(07)	(08)	(09)	OUTLAYS
1989	\$9,301,600	\$5,000	\$26,440	\$297,283	\$18,871,2
1990	\$9,301,600	\$5,000	\$26,440	\$297,283	\$22,019,5
1991	\$9,301,600	\$5,000	\$26,440	\$297,283	\$22,019,5
1992	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
1993	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
1994	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
1995	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
1996	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
1997	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,5
1998	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
1999	\$5,699,175	\$1,800	. \$14,730	\$312,570	\$6,504,9
2000	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2001	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504.9
2002	\$5,699,175	\$1,800	\$14,730	\$312,570	\$9,628,2
2003	\$5,699,175	\$1,800	\$14,730	\$312,570	\$9,628,2
2004	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2005	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2006	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2007	\$5,699,175	\$1,200	\$14,730	\$312,570	\$6,504,9
2008	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2009	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2010	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2011	\$5,699,175	\$1,200	\$14,730	\$312,570	\$6,504.9
2012	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
2013	\$5,699,175	\$1,800	\$14,730	\$312,570	\$6,504,9
*NPV	64.02	0.03	0.17	2.95	







### PROJECT/PROGRAM COSTS

ALTERNATIVE 2: New Construction

	PRESENT	CUMULATIVE PRESENT	PRESENT VALUE	CUMULATIVE NET PRESENT
YEAR	VALUE	VALUE	RESIDUAL	VALUE
	A43 007 87/	\$17,993,074	\$0	\$17,993,074
1989	\$17,993,074	\$37,079,290	\$0	\$37,079,290
1990	\$19,086,216	\$54,430,395	\$0	\$54,430,395
1991	\$17,351,105	\$59,090,236	\$ Ø	\$59,090,236
1992	\$4,659,841	\$63,326,455	\$0	\$63,326,455
1993	\$4,236,219	\$67,177,564	\$ Ø	\$67,177,564
1994	\$3,851,109	\$70,678,572	\$0	\$70,678,572
1995	\$3,501,008 \$3.182.735	\$73,861,307	\$0	\$73,861,307
1996		\$76,754,702	\$0	\$76,754,702
1997	\$2,893,395	\$79,385,061	\$0	\$79,385,061
1998	\$2,630,359	\$81,776,296	\$0	\$81,776,296
1999	\$2,391,235	\$83,950,147	\$0	\$83,950,147
2000	\$2,173,851	\$85,926,375	\$0	\$85,926,375
2001	\$1,976,228	\$88,585,545	50	\$88,585,545
2002	\$2,659,170	\$91,002,972	\$ Ø	\$91,002,972
2003	\$2,417,427	\$92,487,741	\$ Ø	\$92,487,741
2004	\$1,484,769	\$93,837,532	\$0	\$93,837,532
2005	\$1,349,791	\$95,064,614	\$Ø.	\$95,064,614
2006	\$1,227,082		\$Ø. \$Ø	\$96,180,143
2007	\$1,115,529	\$96,180,143	\$ Ø	\$97,194,259
2008	\$1,014,116	\$97,194,259	\$ Ø	\$98,116,184
2009	\$921,925	\$98,116,184	30	\$98,954,298
2010	\$838,114	\$98,954,298	\$0	\$99,716,219
2011	\$761,921	\$99,716,219	\$Ø	\$100,408,876
2012	\$692,657	\$100,408,876		\$99,427,630
2013	\$629,607	\$101,038,563 	\$1,610,933	#77, WZ/, OOU
*NPV			-1.62	

EQUIVALENT UNIFORM ANNUAL COST = \$10,953,750 (10.00% DISCOUNT RATE, 25 YEARS)





#### PRIMARY ECONOMIC ANALYSIS

PRESENT ALTERNATIVE: Upgrade Status Quo PROPOSED ALTERNATIVE: New Construction

ECONOMIC LIFE (PRESENT): 25 YEARS ECONOMIC LIFE (PROPOSED): 25 YEARS

	RECURRING	ANNUAL			PRESENT
	OPERATING	COSTS		PRESENT	VALUE OF
PROJECT	PRESENT	PROPUSED	DIFFERENTIAL	VALUE	DIFFERENTIAL
YEAR(S)	ALTERNATIVE	ALTERNATIVE	COST	FACTOR	COST
1989	\$9,677,455	\$9,871,295	-\$193,840	0.953	-\$184,819
1990	\$9,974,738	\$9,871,295	\$103,443	0.867	\$89,663
1991	\$9,974,738	\$9,871,295	\$103,443	0.788	\$81,512
1992	\$9,974,738	\$6,504,973	\$3,469,765	0.716	\$2,485,567
1993	\$10,163,613	\$6,504,973	\$3,658,640	0.651	\$2,382,607
1994	\$10,163,613	\$6,504,973	\$3,658,640	0.592	\$2,166,007
1995	\$10,163,613	\$6,504,973	\$3,658,640	0.538	\$1,969,098
1996	\$10,163,613	\$6,504,973	\$3,658,640	0.489	\$1,790,067
1997	\$10,163,613	\$6,504,973	\$3,658,640	0.445	\$1,627,353
1998	\$10,163,613	\$6,504,973	\$3,658,640	0.404	\$1,479,411
1999	\$10,163,613	\$6,504,973	\$3,658,640	0.368	\$1,344,920
2000	\$10,163,613	\$6,504,973	\$3,658,640	0.334	\$1,222,655
2001	\$10,163,613	\$6,504,973	\$3,658,640	0.304	\$1,111,504
2002	\$10,163,613	\$6,504,973	\$3,658,640	0.276	\$1,010,457
2003	\$10,163,613	\$6,504,973	\$3,658,640	0.251	\$918,598
2004	\$10,163,613	\$6,504,973	\$3,658,640	0.228	\$835,089
2005	\$10,163,613	\$6,504,973	\$3,658,640	0.208	\$759,173
2006	\$10,163,613	\$6,504,973	\$3,658,640	0.189	\$690,157
2007	\$10,163,613	\$6,504,973	\$3,658,640	0.171	\$627,415
2008	\$10,163,613	\$6,504,973	\$3,658,640	0.156	\$570,379
2009	\$10,163,613	\$6,504,973	\$3,658,640	0.142	\$518,526
2010	\$10,163,613	\$6,504,973	\$3,658,640	0.129	\$471,386
2011	\$10,163,613	\$6,504,973	\$3,658,640	0.117	\$428,532
2012	\$10,163,613	\$6,504,973	\$3,658,640	0.106	\$389,574
2013	\$10,163,613	\$6,504,973	\$3,658,640	0.097	\$354,159
TOTALS	\$253,037,542	172,723,291	\$80,314,251		\$25,139,010
TOTAL PRE	SENT VALUE OF N	NEW INVESTMENT			\$30,330,542
PLUS: PRE	SENT VALUE OF E	EXISTING ASSETS	S TO BE USED		\$0
LESS: PRE	SENT VALUE OF E	EXISTING ASSETS	S REPLACED		\$0
LESS: PRE	SENT VALUE OF T	TERMINAL VALUE	OF ALTERNATIVE		\$1,610,933
TOTAL PRE	SENT VALUE OF N	ET INVESTMENT			\$28,719,609
TOTAL PRE	SENT VALUE OF D	DIFFERENTIAL CO	OSTS		\$25,139,010
PLUS: PRE	SENT VALUE OF C	OST OF REFURB	ISHMENT OR		
	IFICATION ELIMI				\$13,363,262
	TUS QUO SALVAGE				\$0
	SENT VALUE OF S				\$38,502,272
	NVESTMENT RATIO				1.34
	D PAYBACK PERIC				11.5 YEARS



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#### LIFE CYCLE COST REPORT

SOURCE AND DERIVATION OF COSTS AND BENEFITS:
STATUS QUO: Initial upgrade costs were estimated based on \$50.00 per square
foot. Maintenance and repair was estimated at \$1.31 per square foot.
Utilities estimates were obtained from DA Facilities Engineering and Housing
Annual Summary of Operations, the factor was \$.92 per sq. ft.
Personnel costs were estimated as follows:

\$24,047.00 x 283 employees = \$6,805,301 \$32,062.00 x 50 contractors = \$1,603,100 overtime = \$893,199

\_\_\_\_\_

Total \$9,301,600

Fuel costs were estimated at \$.84 per gallon consumed.

Vehicle usage costs are based on historical data.

NEW CONSTRUCTION: Initial construction cost data was obtained from 415-17. Fersonnel costs were determined by using an average annual salary of

 $$24,047.15 \times 237 \text{ employees} = $5,699,175$ 

Maintenance and repair was estimated at \$1.12 per sq. ft.

Utilities costs were estimated at \$1.15 per sq. ft.

Vehicle usage was estimated to be 56% less than status quo.

Fuel costs were estimated at \$0.84 per gallon consumed.



FILENAME: PRIMAF
03 DEC 1987

PAGE 04

I N P U T L I S T I N G LINES 000001-000050

0001: \* 0002: PROJECT TITLE IS & 0003: 'Consolidated Maintenance Facility' 0004: ACTION OFFICER IS & 0005: 'Bernice Ellis' 0006: ORGANIZATION IS & 0007: 'DEH, Fort Bowie' 0008: OBJECTIVE IS & 0009: 'Provide 210,000 sf of maintenance shops.' 0010: \* 0011: BEGIN ASSUMPTIONS 0012: Per regulatory guidelines, a dicount rate of 10% is used. 0013: Training is 1% of equipment acquistion cost. 0014: Equipment maintenance is 4.5% of acquisition cost. 0015: New construction will take 3 years. 0016: Equipment life is 12 years. 0017: END ASSUMPTIONS 0018: 0019: EEGIN DISCUSSION OF ALTERNATIVES 0020: The following alternatives were considered in this economic analysis: 0021: 0022: NEW CONSTRUCTION: Construction of a consolidated maintenance facility. 0023: This alternative replaces the existing vintage temporary buildings and 0024: provides the necessary 210,000 sf of maintenance space. 0025: 0026: STATUS QUO (MODIFIED): Upgrade the existing facilities. Currently, 25 0027: separate dispersed facilities exist spread over a 5 mile radius. These 0028: facilities will be modified to provide the necessary maintenance space. 0029: END DISCUSSION OF ALTERNATIVES 0030: \* 0031: BEGIN DATA 0032: PERIOD OF ANALYSIS IS 25 YEARS 0033: START YEAR IS 1989 0034: BASE YEAR IS 1989 0035: DISCOUNT RATE IS 10.00 0036: GLOBAL DISCOUNTING CONVENTION IS 2 0037: PRIMARY ANALYSIS 0038: COST STORED IN 'ACTUAL' DOLLARS 0039: END DATA 0040: \* 0041: BEGIN ALTERNATIVE 1 0042: ALTERNATIVE NAME IS 'Upgrade Status Quo' 0043: ALTERNATIVE DESCRIPTION IS & 0044: 'Modify and upgrade existing facilities.' 0045: ECONOMIC LIFE IS 25 YEARS 0046: EXPENSE ITEM 1 IS 'Initial:Upgrade: ' & 0047: 2\*4823675.00 23\*0.00 0048: EXPENSE ITEM 2 IS 'Equipment: : ' & 0049: 1\*3540684.00 10\*0.00 1\*3540684.00 13\*0.00



0050: EXPENSE ITEM 3 IS 'Training: : ' &



```
0051: 1*25000.00 24*0.00
 0052: EXPENSE ITEM 4 IS 'Annual:M & R: ' &
 0053: 4*62960.00 21*251835.00
 0054: EXPENSE ITEM 5 IS 'Annual: Utilities: ' &
 0055: 25*178012.00
 0056: EXPENSE ITEM 6 IS 'Personnel:Cost: ' &
 0057: 25*9301600.00
 0058: EXPENSE ITEM 7 IS 'MHE:Fuel: ' &
 0059: 25*5000.00
 0060: EXPENSE ITEM 8 IS 'Depot:Transport:Cost' &
 0061: 25*103443.00
0062: EXPENSE ITEM 9 IS 'Vehicle: Usage: ' &
 0063: 25*26440.00
0064: EXPENSE ITEM 10 IS 'Equipment: Maintenance: ' &
 0065: 1*0.00 24*297283.00
0066: INFLATION FACTORS ARE &
0067: 10*0
0068: DISCOUNT FACTORS ARE &
0069: 10*2
0070: RECURRING COSTS ARE &
0071: 4 5 6 7 8 9 10
0072: REFURBISHMENT COSTS ARE &
0073: 1 2 3
0074: END ALTERNATIVE 1
0075: *
0076: BEGIN ALTERNATIVE 2
0077: ALTERNATIVE NAME IS 'New Construction'
0078: ALTERNATIVE DESCRIPTION IS &
0079: 'Construction of a consolidated maintenance' &
0080: 'facility.
0081: ECONOMIC LIFE IS 25 YEARS
0082: EXPENSE ITEM 1 IS 'Initial:Construction:Cost' &
0083: 3*9000000.00 22*0.00
0084: EXPENSE ITEM 2 IS 'Equipment: : ' &
0085: 1*0.00 2*3123275.00 10*0.00 2*3123275.00 10*0.00
0086: EXPENSE ITEM 3 IS 'Training: : ' &
0087: 1*0.00 2*25000.00 22*0.00
0088: EXPENSE ITEM 4 IS 'Annual:M & R: ' &
0089: 3*62960.00 22*234668.00
0090: EXPENSE ITEM 5 IS 'Annual:Utilities: '&
0091: 3*178012.00 22*242030.00
0092: EXPENSE ITEM 6 IS 'Personnel: : ' &
0093: 3*9301600.00 22*5699175.00
0094: EXPENSE ITEM 7 IS 'MHE:Fuel: ' &
0095: 3*5000.00 22*1800.00
0096: EXPENSE ITEM 8 IS 'Vehicle: Usage: ' &
0097: 3*26440.00 22*14730.00
0098: EXPENSE ITEM 9 IS 'Equipment: Maintenance: ' &
0099: 3*297283.00 22*312570.00
0100: INFLATION FACTORS ARE &
```



#### INPUT LISTING LINES 000101-000150

```
0101: 9*0
0102: DISCOUNT FACTORS ARE &
0103: 9*2
0104: SALVAGE VALUE IS 17453984.00
0105: RECURRING COSTS ARE &
0106: 4 5 6 7 8 9
0107: NEW COSTS ARE &
0108: 1 2 3
0109: END ALTERNATIVE 2
0110: *
0111: BEGIN SOURCE/DERIVATION
0112: STATUS QUO: Initial upgrade costs were estimated based on $50.00 per sc
0113: foot. Maintenance and repair was estimated at $1.31 per square foot.
0114: Utilities estimates were obtained from DA Facilities Engineering and Hou
0115: Annual Summary of Operations, the factor was $.92 per sq. ft.
0116: Personnel costs were estimated as follows:
0117:
           $24,047.00 \times 283 \text{ employees} = $6,805,301
0118:
           $32,062.00 \times 50 \text{ contractors} = $1,603,100
0119:
                            overtime = $ 893,199
0120:
0121:
                                          $9,301,600
                            Total
0122:
0123:
0124: Fuel costs were estimated at $.84 per gallon consumed.
0125: Vehicle usage costs are based on historical data:
0126:
0127: NEW CONSTRUCTION: Initial construction cost data was obtained from 415-
0128: Personnel costs were determined by using an average annual salary of
0129:
           $24,047.15 \times 237 \text{ employees} = $5,699,175
0130:
0131:
0132: Maintenance and repair was estimated at $1.12 per sq. ft.
0133: Utilities costs were estimated at $1.15 per sq. ft.
0134: Vehicle usage was estimated to be 56% less than status quo.
0135: Fuel costs were estimated at $0.84 per gallon consumed.
0136: END SOURCE/DERIVATION
0137: *
0138: BEGIN RESULTS
0139: The new construction alternative was found to be the most economical ove
0140: the 25 year period of analysis. This alternative is recommended to prov
0141: the necessary 210,000 sf of maintenance space to ensure mission training
0142: and readiness.
0143: END RESULTS
0144: *
0145: STOP RUN
```



#### APPENDIX E

# TERMINAL PROMPTING SEQUENCE WORKSHEET PRIMARY ANALYSIS

1.	Input filename (8 characters max):
2.	Project title (48 characters max):
3.	Name, title, and phone number of action officer (48 characters max):
4.	Organization title (48 characters max):
5.	Objective of the analysis (48 characters max):
ŝ.	Discuss all assumptions for this economic analysis.



7.	Discuss all alternatives considered for this economi analysis.
_	
8.	Period of analysis (60 years max; 2 characters max):
9.	Start year (4 characters required):
	•
10.	Base year (4 characters required):
11	Discount rate (Enter as a percentage.):
12.	Global discounting convention (1= beginning-of-year, 2= middle-of-year, 3= end-of-year):
	E-2

13. Do you wish to add a differential inflation index (Y/N)?

[If yes, GOTO 13.1, if no, GOTO 14.]

# 13.1 INFLATION INDEX TITLE (20 characters max)

10.

INFLATION INDEX
VALUES
(Enter as decimal numbers;
enter a value for each
year in the period of
analysis.)

1.	1.	
2.	2.	
3.	3.	
4.	4.	
5.	5.	
6.	6.	
7.	7.	
8.	8.	
9.	9.	

10.

14. Do you wish to add a residual schedule (Y/N)?

[If yes, GOTO 14.1, if no, GOTO 15.]

## 14.1 RESIDUAL SCHEDULE TITLE (20 characters max)

#### RESIDUAL SCHEDULE VALUES

(Enter as decimal numbers; enter a value for each year in the period of analysis.)

- 1.
- 2. 2.
- 3.
- 4. 4.
- **5. 5.**
- 6.
- 7. 7.
- 8.
- 9.
- 10.
- 15. Analysis type -- primary or secondary:

#### Primary

TOTAL PROPERTY CONTRACTOR CONTRACTOR PROPERTY

16. Alternative cost input method (1 = as entered,
2 = in thousands of dollars, 3 = in millions of dollars):

#### ALTERNATIVE # \_\_\_\_

		ALTERNATIVE #	
	17.	Alternative name (20 characters	max):
	18.	Descriptive title (2 lines of 4	8 characters max):
	19.	Economic life (2 characters max	):
<b>4</b> 05.	20.	EXPENSE ITEM TITLE (3 lines of 12 characters max)	EXPENSE ITEM COSTS (Enter a cost for eac year in the period analysis.)
		1.	1.
		2.	2.
		3.	3.
387A			

SOUTH SOUTH



(3	EXPENSE ITEM TITLE lines of 12 characters max)	EXPENSE ITEM  COSTS  (Enter a cost for each year in the period of analysis.)
4.		4.
5.		5.
6.		6.
7.		7.
8.		8.
9.		9.
10.		10.
11.		11.
12.		12.

12. 13.

14.

14.



EXPENSE ITEM TITLE (3 lines of 12 characters max)	EXPENSE ITEM COSTS (Enter a cost for each year in the period of analysis.)
15.	15.
16.	16.
17.	17.
18.	18.
19.	19.
20.	20.
Expense item number to assign a di index:	fferential inflation
EXPENSE ITEM NUMBER	DIFFERENTIAL INFLATION INDEX NUMBER
Expense item number to assign a sp convention (1= beginning-of-year, 3= end-of-year):	ectal discounting 2= middle-of-year,
EXPENSE ITEM NUMBER	SPECIAL DISCOUNTING CONVENTION NUMBER



21.

22.

23. Salvage/residual value (Y/N)? [If yes, GOTO 23.1, if no, GOTO 33.] 23.1. Select: One time (at the end of the period of analysis) Use residual schedule [If 1, GOTO 24, then 33. If 2, GOTO 25.] Salvage value: 24. [GOTO 33.] 25. Select: Straight line (SL) Declining balance (DB) Your own residual schedule (US) [If 1 or 2, GOTO 27. If 3, GOTO 26, 27, then 31.] Residual schedule number (required for US): 26. Residual start value (required for SL, DB, and US): 27. Residual life (required for SL and DB): 28.



- 29. Starting year of the residual (required for SL and DB):
- 30. Residual rate (optional for DB):
- 31. Residual inflation index (optional for SL, DB, and US):
- 33. Expense item numbers for expense items that are recurring costs -- status quo or proposed alternative:
- 34. Expense item numbers for expense items that are refurbishment costs -- status quo alternative:
- 35. Expense item numbers for expense items that are investment costs -- proposed alternative:
- 36. Expense item numbers for expense items that are inherited assets -- proposed alternative:
- 37. Expense item numbers for expense items that are replaced assets -- proposed alternative:

Discuss all sources and derivations of costs and benefit for this economic analysis.
Alternative numbers to be graphed (6 alternatives max; qraphs max):





#### SENSITIVITY ANALYSIS #

40.	Title (60 characters max); (All data must be entered on one line.):
41.	Alternative numbers to be included in this analysis (max 2):
42.	Expense items to change for Alternative A:
43.	Expense items to change for Alternative B:
44.	Upper limit of change (Enter as a percent.):
45.	Alternative number to be ranked as least cost:

46.	Discuss	all	recommendations	for	this	economic	analysis	•
								_
							-	







# TERMINAL PROMPTING SEQUENCE WORKSHEET SECONDARY ANALYSIS

1.	<pre>Input filename (8 characters max):</pre>
2.	Project title (48 characters max):
3.	Name, title, and phone number of action officer (48 characters max):
4.	Organization title (48 characters max):
5.	Objective of the analysis (48 characters max):
б.	Discuss all assumptions for this economic analysis.
7.	Discuss all alternatives considered for this analysis.



8.	Period of analysis (60 years max; 2 characters max):
	<del></del>
9.	Start year (4 characters required):
10.	Base year (4 characters required):
11.	Discount rate (Enter as percentage.):
12.	Global discounting convention (1= beginning-of-year, 2= middle-of-year, 3= end-of-year):
	<del></del>
13.	Do you wish to add a differential inflation index (Y/N)
	<u> </u>

[If yes, GOTO 13.1, if no, GOTO 14.]

ecoes beneates represent advance secretary restricted beneates



# 13.1. INFLATION INDEX TITLE (20 characters max)

3.

### INFLATION INDEX VALUES

3.

(Enter as decimal numbers; enter a value for each year in the period of analysis.)

1.	1.
2.	2.

4. 4.

5. 5.

6.

7.

8.

9.

10.

14. Do you wish to add a residual schedule (Y/N)?

[If yes, GOTO 14.1, if no, GOTO 15.]

# 14.1. RESIDUAL SCHEDULE TITLE (20 characters max)

#### RESIDUAL SCHEDULE VALUES

(Enter as decimal numbers; enter a value for each year in the period of analysis.)

1.

2.

3.

4.

# RESIDUAL SCHEDULE TITLE (20 characters max)

# RESIDUAL SCHEDULE VALUES (Enter as decimal numbers; enter a value for each year in the period of analysis.)

	and the police of unally	
5.	5.	_
6.	6.	
7.	7.	
8.	8.	
9.	9.	
10.	10.	

15. Analysis type -- primary or secondary:

#### Secondary

16. Alternative cost input method (1 = as entered,
2 = in thousands of dollars, 3 = in millions of dollars):

.4	<b>1.</b>
V	C۸.
w	
	V 4

#### ALTERNATIVE # \_\_\_\_

17.	Alternative name (20 characters max):
18.	Descriptive title (2 lines of 48 characters max):
19.	Economic life (2 characters max):
<b>⊥</b> フ•	ECONOMIC TITE (2 Characters max):

OCCUSION DECOMPOSED DEGREES PARAMEDOS DESCISOS REGERANDO DESCISOS.



20.	EXPENSE ITEM TITLE (3 lines of 12 characters max)	EXPENSE ITEM  COSTS (Enter a cost for each year in the period of analsyis.)		
	1.	1.		
	2.	2.		
	3.	3.		
	4.	4.		
	5.	5.		
	6.	6.		
	7.	7.		
	8.	8.		
	9.	9.		
1	10.	10.		
1		11.		



# EXPENSE ITEM TITLE (3 lines of 12 characters max)

#### EXPENSE ITEM COST er a cost for eac

(Enter a cost for each year in the period of analysis.)

	analysis.)
12.	12.
13.	13.
14.	14.
15.	15.
16.	16.
17.	17.
18.	18.
19.	19.



20.

20.

21.	Expense item number to assign index:	n a differential inflation
	EXPENSE ITEM NUMBER	DIFFERENTIAL INFLATION INDEX NUMBER
23.	Expense item number to assign convention (1= beginning-of-y a= end-of-year):	
	EXPENSE ITEM NUMBER	SPECIAL DISCOUNTING CONVENTION NUMBER
23.	Salvage/residual value (Y/N)?	
1 1 1 1 1 1 1		то 33.]
22	23.1. Select:	
	<ol> <li>One time (at the e</li> <li>Use residual sched</li> </ol>	nd of the period of analysis) ule
\$ \$	[If 1, GOTO 24, then 33. If	2, GOTO 25.]
24.	Salvage value:	
<b>&gt;</b> .	[GOTO 33.]	
88088 8		
33333000000000000000000000000000000000	E-20	

KARANTAN ALAKKARRA (KARANSA KARANTA) KARANTAN ARANTAN



#### 25. Select:

- 1) Straight line (SL)
- Declining balance (DB)
- 3) Your own residual schedule (US)

[If 1 or 2, GOTO 27. If 3, GOTO 26, 27, then 31.]

- 26. Residual schedule number (required for US):
- 27. Residual start value (required for SL, DB, and US):
- 28. Residual life (required for SL and DB):
- 29. Start year of the residual (required for SL and DB):
- 30. Residual rate (optional for DB):
- 31. Residual inflation index (optional for SL, DB, and US):
- 32. Residual discounting convention (1= beginning-of-year,
  2= middle-of-year, 3= end-of-year); (optional for SL, DB,
  and US):

 <del></del>		 <del></del>		- <del></del>
native num max; 4 gr		(6 alte	ernatives	per
 	<u></u>	 		

#### SENSITIVITY ANALYSIS # \_\_\_\_\_

35.	Title (60 characters max; all data must be entered on one line):
36.	Alternative numbers to be included in this sensitvity analysis (max 2):
37.	Expense item numbers to change for Alternative A:
38.	Expense item numbers to change for Alternative B:
39.	Upper limit of change (Enter as a percent.):
40.	Alternative number to be ranked as least cost:

41.	Discuss	all	recommendations	for	this	economic	analysis.	
		· <del>-</del> ,		<del></del>	<del></del>			



#### APPENDIX F

#### INTERFACE WITH THE PAX MAINFRAME SYSTEM

#### INTRODUCTION

The end result of most economic analyses is to support a DD Form 1391 project proposal. The mainframe version of ECONPACK and the DD FORM 1391 Processor are applications available on the Programming, Administration, and Execution System (PAX). It is a simple process to transfer an economic analysis file from the mainframe version of ECONPACK to a DD FORM 1391 form. In order to transfer EA data from PC-ECONPACK to the DD Form 1391 processor, a link must be made between PC-ECONPACK and the mainframe environment. This link is provided by the PC-ECONPACK Communications System.

#### SETTING UP THE PC-ECONPACK COMMUNICATIONS SYSTEM

In addition to the five PC-ECONPACK floppy diskettes provided with the PC-ECONPACK your manual, there is a sixth diskette labelled ECONPACK COMMUNICATIONS. With this diskette, your personal computer can communicate with the PAX mainframe system. Once the PC-ECONPACK Communications System is installed, you will be able to transfer (upload) a single input file from PC-ECONPACK to the mainframe system or (download) from the Mainframe System back to your personal computer. Before you use the communication package, you must perform some preliminary steps.

A separate sub-directory must be created within the ECONPACK sub-directory. The following DOS commands should be followed in order to accomplish this:

STEP 1: At the C> type:

C>CD\ECONPACK [ENTER]

STEP 2: A second C> appears on the screen. Type:

C>MD COM [ENTER]

STEP 3: Another C> should appear on the monitor. Type:

C>CD COM [ENTER]

Next, copy the PC-ECONPACK Communications System files from the floppy diskette to the hard disk on your personal computer. To install the system files from the floppy diskette to your hard disk, do the following:



STEP 1: Insert the floppy diskette in the A-drive and shut the drive door.

STEP 2: At the C>, type:

STATES TO THE PROPERTY OF THE

CCOPY A:\*.\* [ENTER]

You are now able to use the PC-ECONPACK Communications System with PC-ECONPACK.

{At the next C> type in: ECONPACK and call up the PC-ECONPACK main menu. Press the number [3] to choose the File Maintenance Facility sub-menu. From this sub-menu select option number [7] for Upload/Download an Input File.} This calls the ECONPACK communications system.

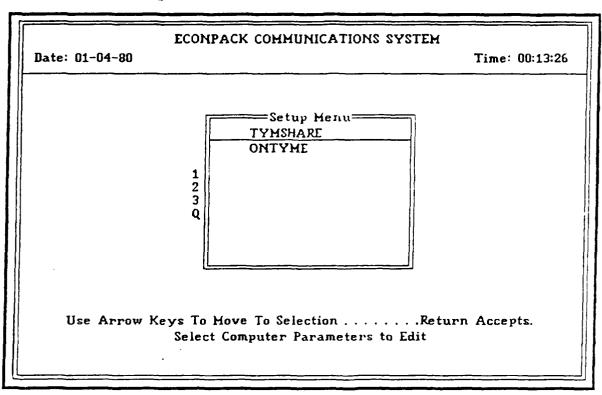
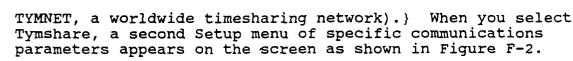


Figure F-1 Initial Setup menu

The first time the ECONPACK communications system is used, you must specify the communications parameters for the particular personal computer you are using. This is done through a series of menus by which you define each parameter. {When the first menu appears on the screen (see Figure F-1), press [Enter] to select Tymshare (Tymshare, Inc., a wholly-owned subsidiary of McDonnell Douglas, Inc., provides a commercial mainframe computer system on which the PAX system is run. It is accessed through



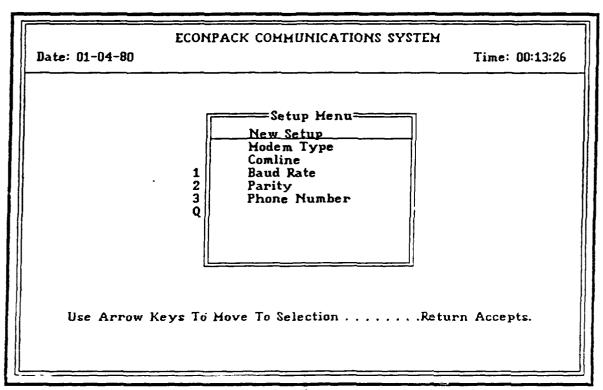


Figure F-2 Specific Communications Parameters Setup Menu

This Setup menu has six choices. The first selection, "New Setup," allows you to make changes to all five of the parameters (the five parameters are the same as the other five options on the Setup menu). When "New Setup" is chosen, five different submenus will appear on the screen (in sequence) prompting you to make a selection for each parameter. The other five menu selections on the Setup menu allow you to change just one of the parameters and avoid going through each individual parameter menu.

{Move the bar cursor to "New Setup" and press [Enter].} The screen displays two different menu choices, Hayes Smart Modem or Network. The cursor should be under the Modem option. {If your personal computer is part of a network, then move the cursor to network and press [Enter]. If it is not, move the cursor to the Modem option and press [Enter].} Note: If you are planning to use a modem, it must be 100% Hayes compatible.

The next menu to appear on the monitor is the menu for the communications port. The bottom of the screen should have a

Reacease Produced Research Division Research

statement "Select Communications Port." The communications port is the port your modem is using. {If you do not know which port your modem is using, move the bar cursor to "Comline 1" and press [Enter].} If you have chosen the wrong port, the system will return you to the Setup menu when you try to connect with Tymshare. At that time change the port to Comline 2.

The third parameter required is the Baud Rate. Most likely you will be using a 1200 baud modem, but check your modem to be sure. {Move the cursor to the applicable baud rate and press [Enter].}

A menu appears listing five parity choices. The PAX system uses "Even" parity. {Move the bar cursor to "Even" and press [Enter].}

The last parameter to initialize is the phone number. (Move the cursor to "New Number" and press [Enter].) The menu disappears and you are prompted to enter the new phone number at the bottom of the screen with:

Enter Phone Number 0-0-000-000-0000

{Enter the Tymshare number for your area in a right justified manner (e.g., 0-0-000-691-8200).} After the last digit is entered, PC-ECONPACK prompts you for a Yes or No response:

Is This Correct (Y/N)? [Y] 0-0-000-691-8200

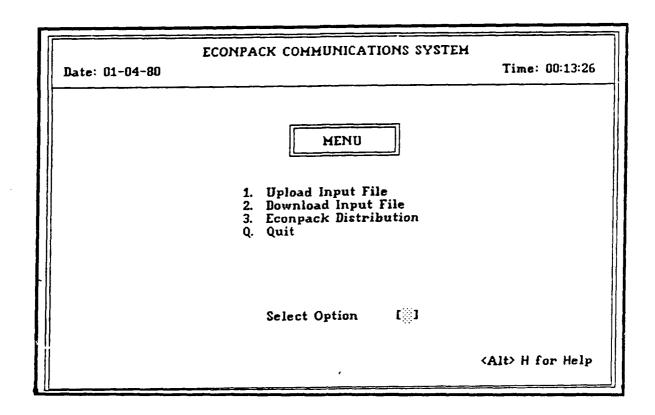


Figure F-3 PC-ECONPACK Communications System main menu

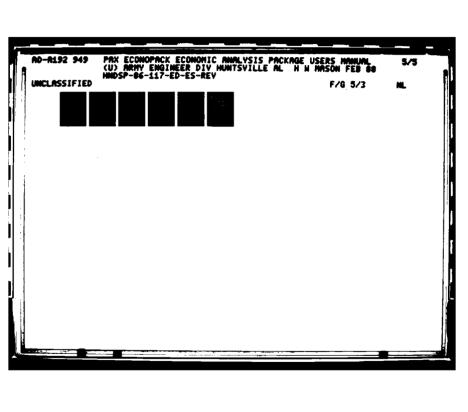
{If the number is typed in correctly, just enter "Y". Enter "N" if the number is incorrect. You will be able to re-enter the phone number.} This is the last of the parameters that must be defined. Once these parameters have been initialized on your hardware, you are ready to begin using the communications package.

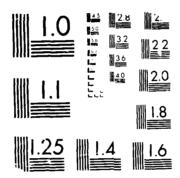
After you have specified the last communications parameter (telephone number), the PC-ECONPACK Communication System Main Menu appears on the screen.

#### UPLOADING FILES TO THE PAX MAINFRAME SYSTEM

Only input files may be uploaded. Report files may not be uploaded. Once an input file is uploaded it is available for use in mainframe ECONPACK to (1) access from a DD Form 1391 and generate reports which are automatically put into the Form 1391 or (2) run with mainframe ECONPACK (usable as if it had been generated on the mainframe).

The first step of the transfer process is to specify whether the file transfer will be uploaded to the mainframe or downloaded to





MICROCOPY RESOLUTION TEST CHART

Zezzaka Tkkassen, nemedeni, nempoparikanakan menengaran bedensa menenga kezakan. Benemar

PC-ECONPACK. Figure F-3 shows the menu with four choices. You have a choice of Option 1 for uploading the input file or option 2 for downloading the input file. Option 3, "ECONPACK distribution," is a function which is currently inactive. Option 4 "Quit" allows you to cancel the exercise at this point and returns you to the File Maintenance Facility sub-menu.

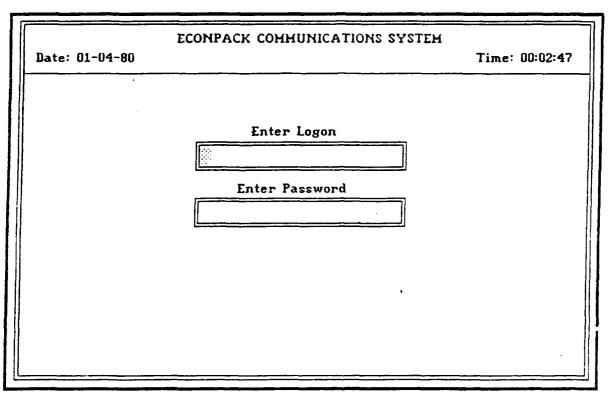


Figure F-4 Logon I.D. and password entry screen

From this screen you can access several functions that are related only to the PC-ECONPACK Communications System. Press <Alt>H (simultaneously press the [Alt] key and the letter "H") and a separate Help menu appears listing six available functions. Press any key and you are returned to the preceding menu. All the functions are self-explanatory with the exception of <Alt>W, "Watch Me Logon." This function is used in conjunction with the modem type "Network". It will be explained later in this chapter.

There is no cursor on the particular menu in Figure F-3. {Press [1] to enter Option 1 "Upload Input File."} Another screen appears on your monitor requiring you to enter your I.D. and your password as in Figure F-4.



{Enter your Logon I.D. and press [Enter] then type in your secret password (the screen will display only "X's") and press [Enter].} (Note that these two entries will not be stored on your disk.) A Yes/No prompt appears at the bottom of the screen:

#### Is This Correct? (Y/N) [Y]

{If the data is correct, type in [Y]. If your response is "N", you are able to re-enter your I.D. and Password. } You are then prompted to enter the name of the file to be uploaded. function (<Alt>V) is provided at the bottom of the screen in the event you do not remember the exact file name. {Type <Alt>V and a list of the PC-ECONPACK input files is displayed.} Directory of input files has a bar cursor which can be used to select the desired file to be uploaded. {Scroll the cursor to the file you want uploaded and press [Enter].} The Directory of files disappears and the file name chosen appears in the box remaining on the screen. {If you do not want to select one of the files in the directory list, press the [Esc] key and the directory of files will be erased from the screen leaving you with the Enter File Name prompt . Alternatively, you may just type in the file name without referring to the View screen (no file extensions are necessary). After a file name has been entered, a Yes/No prompt again appears at the bottom of the screen just like the prompt above. {Type in "Y" and PC-ECONPACK proceeds to log you onto the Tymshare system and begin the file transfer process.}

If you select "Network" when specifying the modem type, an extra procedure is required at this point before you can be connected with Tymshare.

If your personal computer is part of a local area network (LAN), it is necessary for you to navigate through your LAN before you can connect with Tymshare. The procedure for doing this is specific to your LAN and probably would not work on another office's network. After you have completed entering your Logon I.D., Password, and the file name, your monitor should give you your LAN's prompt (i.e.: #). At this point begin the procedure to navigate through your LAN.

If you desire to automate the procedure for logging on to Tymshare through your LAN, the <Alt>W function can be used. Before you start your procedure to connect to Tymshare, type <Alt>W. This invokes the "Watch Me" function. The "Watch Me" function records your procedure for navigating through your LAN. When you see the "Please log in:" prompt on your screen, you have successfully navigated through your LAN. At this point turn off the "Watch Me" function by typing <Alt>W a second time. Give control back to the computer by typing <Alt>C. The computer continues with the actual log on. The computer has now memorized the log-on procedure for your LAN. From this point forward, each

time you upload or download a file, the system will, unless instructed otherwise, attempt to make the connection with Tymshare for you with the procedure recorded by the "Watch Me" function.

Before the system automatically logs you on using your "Watch Me" recorded procedure, there is a few seconds delay. During this period you can choose to override the pre-recorded procedure by typing <Alt>S. This allows you to manually perform the connection to Tymshare through your LAN.

Another useful function is "Auto Logon." This function is used if you already have a "Watch Me" function recorded and you are in the process of performing the log on manually. If, for some reason, you change your mind and wish to use your "Watch Me" recorded procedure, you would use the "Auto Logon" function by typing <Alt>L. The "Watch Me" recorded procedure immediately overrides the manual procedure at any point before completion of the manual log on process.

#### DOWNLOADING FILES FROM THE PAX MAINFRAME SYSTEM

The procedure to download a file from the mainframe computer to PC-ECONPACK is much the same. {At the PC-ECONPACK communications system main menu select Option 2 "Download Input File" by pressing the number [2].} You are prompted with the same log on sequence as was described for uploading. After entering your log on I.D. and password, the computer immediately connects you with Tymshare and logs you on. After log on, you are prompted for the file name you wish to download. The <Alt>V function can also be used at this time to view the available list of files that can be downloaded from the mainframe. {As in the uploading process, you can select the file using the up and down-arrow keys and pressing [Enter].} You may also type the file name in directly (no file type or file mode is necessary). {Once the file has been selected, you confirm the choice by typing "Y" and the system proceeds with the file transfer process.}

#### POSSIBLE PROBLEMS

If you are having trouble making the connection with the Tymshare system, most likely changing one of the communication parameters will solve the problem. First, be sure you have correctly entered the Tymshare dial-up telephone number for your area. Assuming the telephone number is correct, the next most likely parameter to change is the communications port. Earlier it was suggested you should choose Comline 1 as the communications port unless you know for certain that your communications port is Comline 2. Where it was suggested to choose Comline 1, change the port to Comline 2. This is done by typing <Alt>S at the main



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menu and you are returned to the Setup menu. Select "Comline" and when the communications port menu is displayed, select Comline 2.

If changing the communications port does not solve the problem of connecting to Tymshare, change the parameter for the Baud rate. At the main menu type <Alt>S again to return to the Setup menu. Scroll the cursor to the Baud Rate option and press [Enter]. Check your modem for the Baud rate and select the corresponding rate on the menu by scrolling the bar cursor. If you can not locate the Baud rate on the modem itself, you can try the other menu choices in a trial and error fashion.

The last parameter that could possibly be causing a connect problem is the parity. The PAX system uses "Even" parity. Your local area network could be using different parity. You should check with your local area network manager for the correct parity. The same method is used for changing the parity parameter as the other communications parameters.

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